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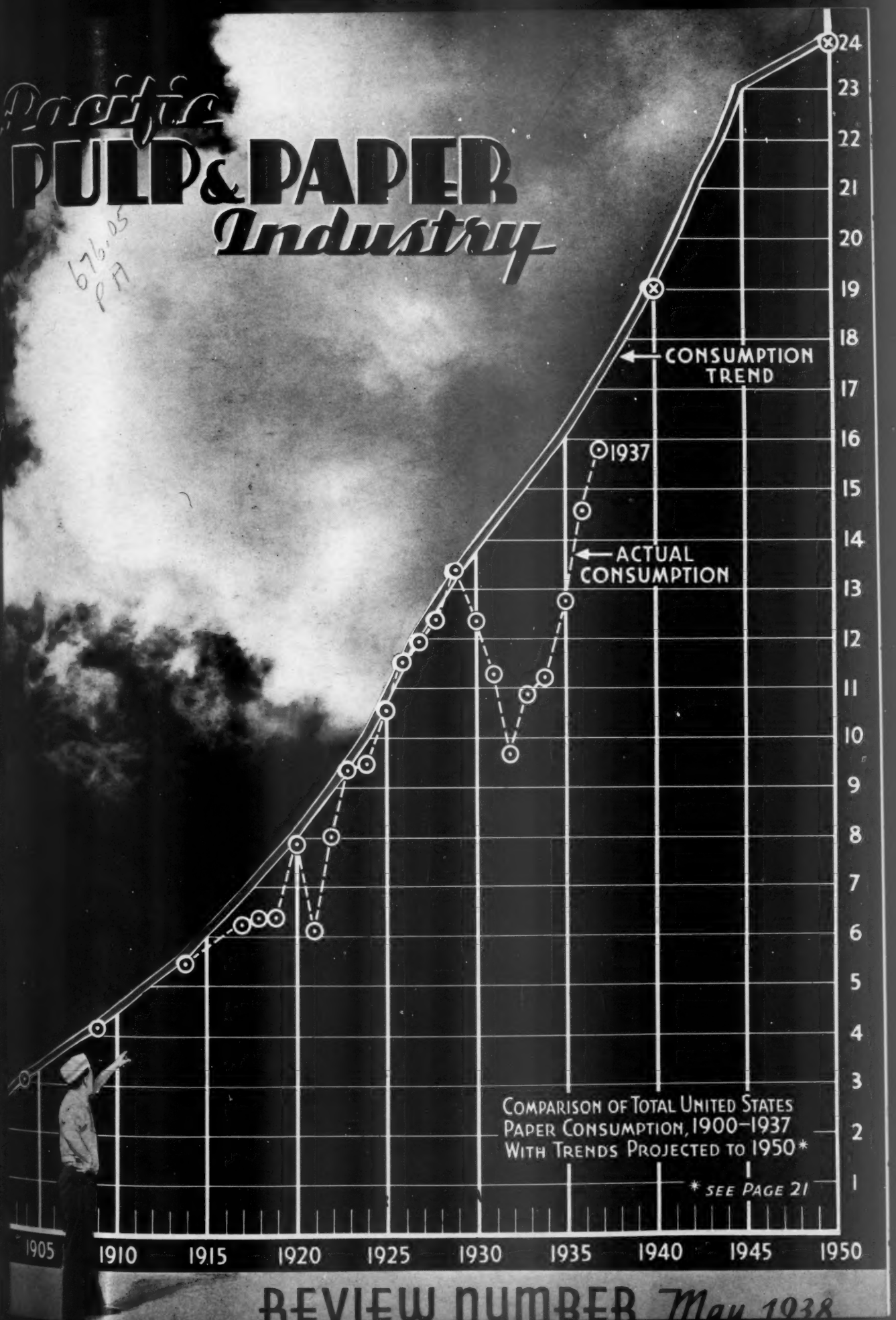
Pacific PULP & PAPER Industry



COMPARISON OF TOTAL UNITED STATES PAPER CONSUMPTION, 1900–1937 WITH TRENDS PROJECTED TO 1950*

* SEE PAGE 21

REVIEW NUMBER May 1938

THE Soundview Pulp Company is known for the fine qualities of its sulphite pulp by paper mills throughout the United States and in many foreign countries. Operating the largest mill in the world, this company reached a production in excess of 500 tons per day shortly after the completion of a recent expansion program.

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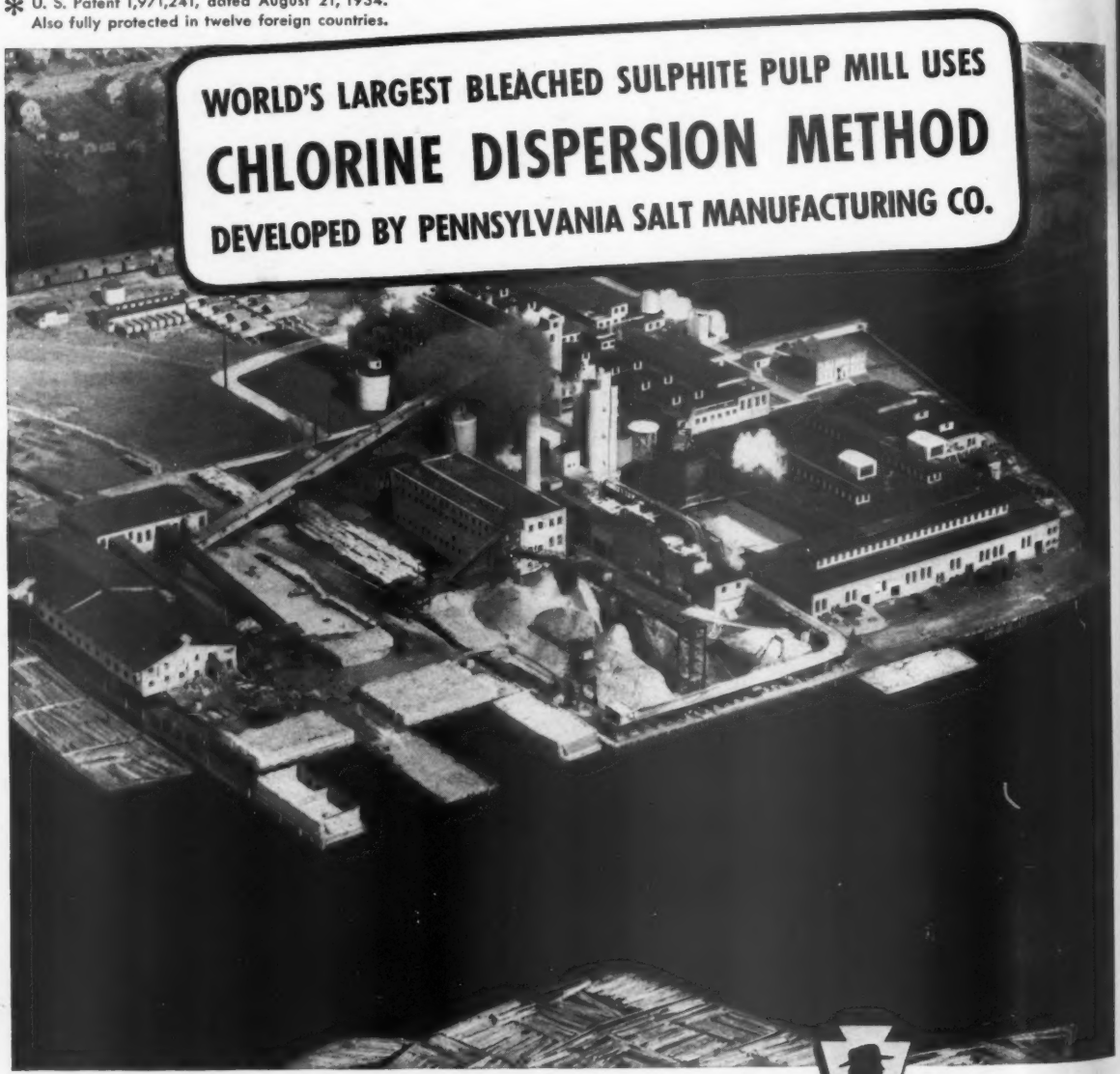
PENNSYLVANIA SALT MANUFACTURING CO. OF WASHINGTON
Tacoma, Washington

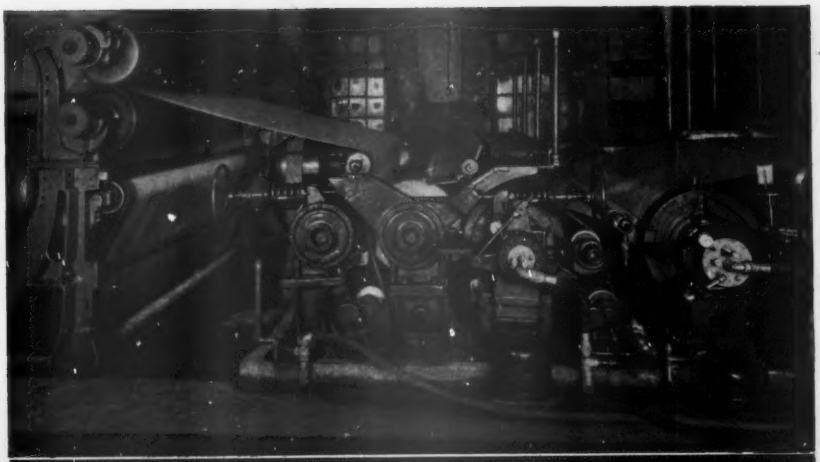
* U. S. Patent 1,971,241, dated August 21, 1934.
Also fully protected in twelve foreign countries.


WORLD'S LARGEST BLEACHED SULPHITE PULP MILL USES
CHLORINE DISPERSION METHOD
DEVELOPED BY PENNSYLVANIA SALT MANUFACTURING CO.

Soundview Pulp Company's
mill at Everett, Washington

PENNSYLVANIA SALT
Chemicals

Pacific Pulp & Paper Industry is published once a month, at 71 Columbia St., Seattle, Wash. Subscription: U. S. and Canada, $4.00; other countries, $5.00
Entered as second class matter May 20, 1927, at the Postoffice at Seattle, under the Act of March 3, 1879.



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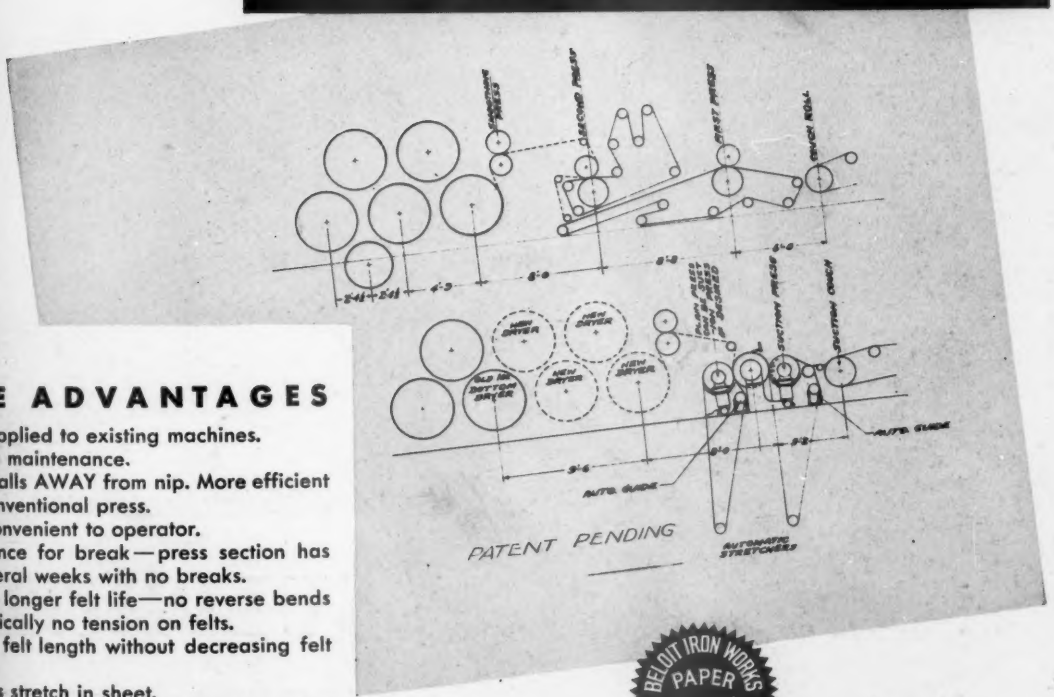

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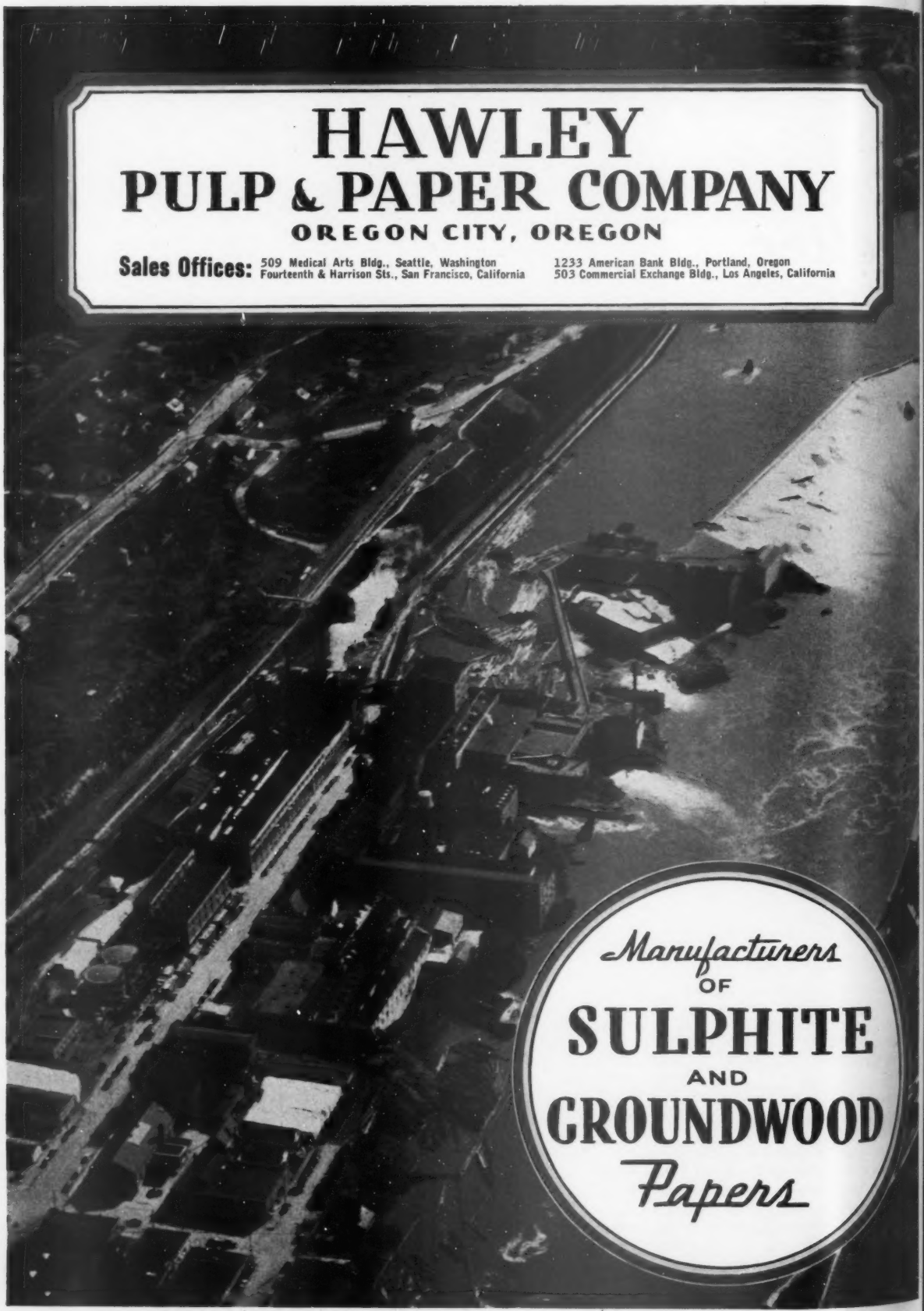

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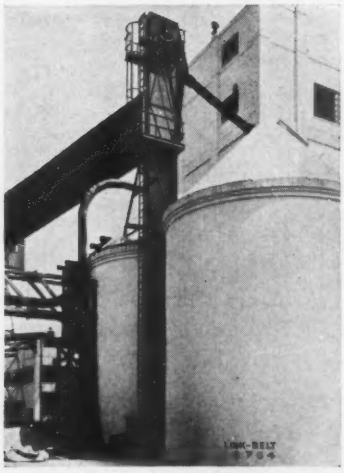
Belt Conveyor handling chips



Bucket Elevator handling raw sulphur

Screw Conveyor handling pulp

Hogged Fuel Conveyor

Picking Table Conveyor over chippers

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and Power Transmission Equipment

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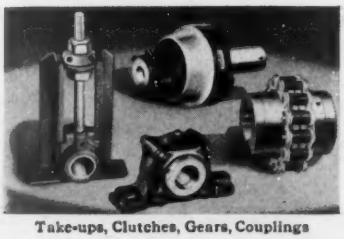

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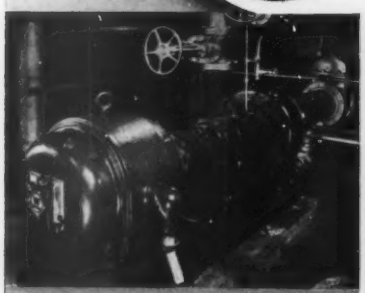
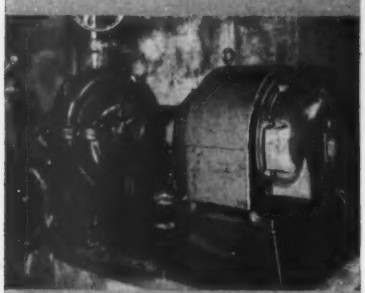
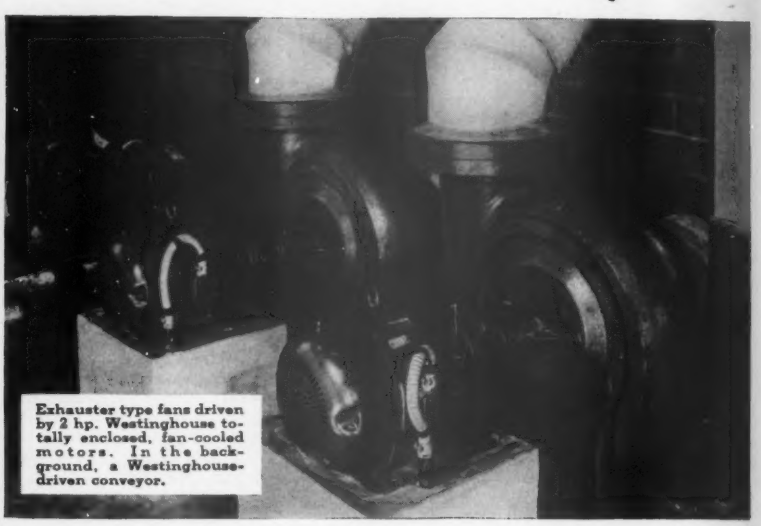


Pump handling paper stock at 1200 gpm. driven by a 50 hp. Westinghouse splash-proof motor.



Pump handling water at 4000 gpm. driven by 150 hp. Westinghouse splash-proof motor.

Vacuum pump driven through a V-belt by a 50 hp. Westinghouse splash-proof motor.



Exhauster type fans driven by 2 hp. Westinghouse totally enclosed, fan-cooled motors. In the background, a Westinghouse-driven conveyor.

Westinghouse equipment helps Westvaco maintain high manufacturing standards

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Splash-proof motor

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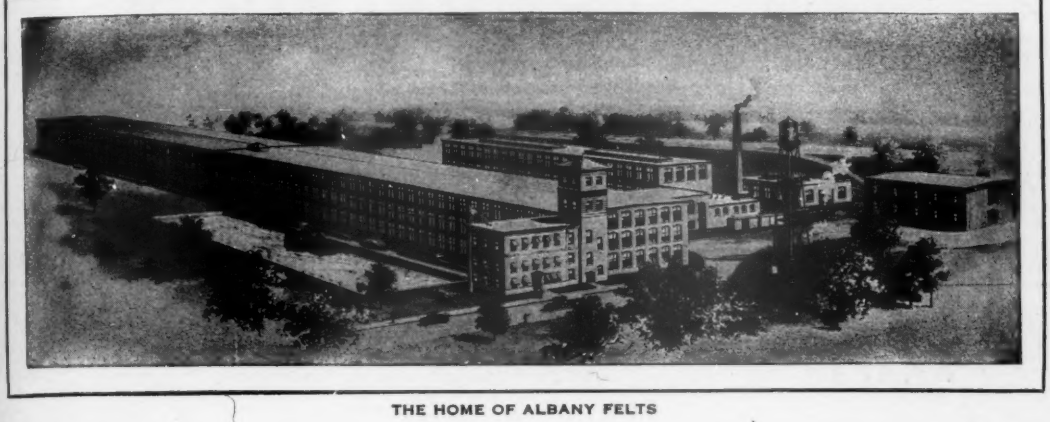

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for **BOARD . .**	A 146 inch cylinder machine for Clifton Paper Board Company, Clifton, New Jersey.
for **CIGARETTE .**	A 96 inch Fourdrinier machine for Smith Paper Inc., Lee, Massachusetts.
for **PHOTOGRAPHIC SPECIALTIES**	A 110 inch Fourdrinier machine for Eastman Kodak Company, Rochester, New York.
for **SULPHITE SPECIALTIES**	A 136 inch Fourdrinier machine for Kalamazoo Vegetable Parchment Company, Parchment, Mich.
for **FELTS . .**	A 166 inch Fourdrinier machine for Armstrong Cork Company, Fulton, New York.
for **CELLULOSE .**	A 128 inch special cylinder machine for Dominion Cellulose, Limited, Toronto, Ontario.
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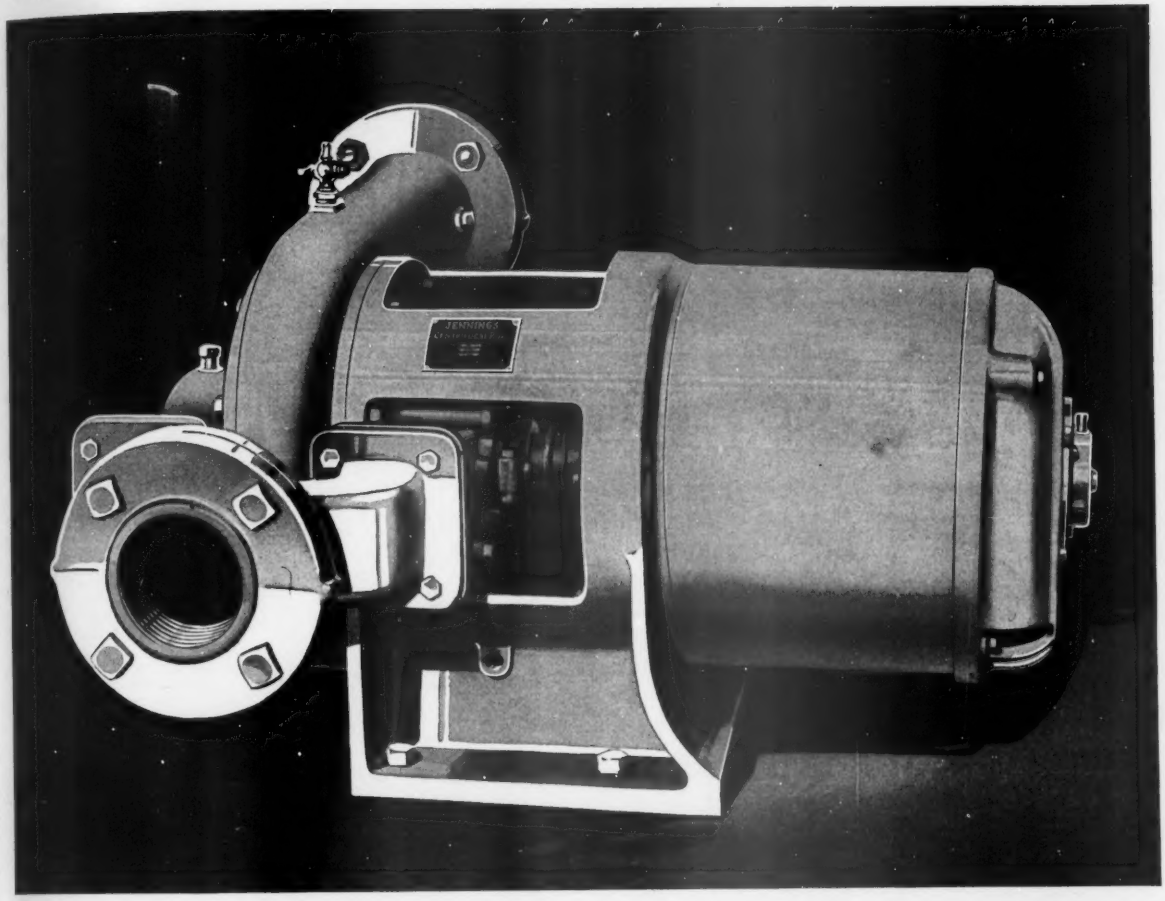
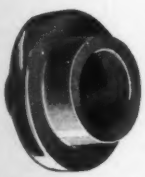


Non-Clog type impeller for solids up to ½ inch.



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An impeller for heavy sewage with solids up to 2⅜ inches.

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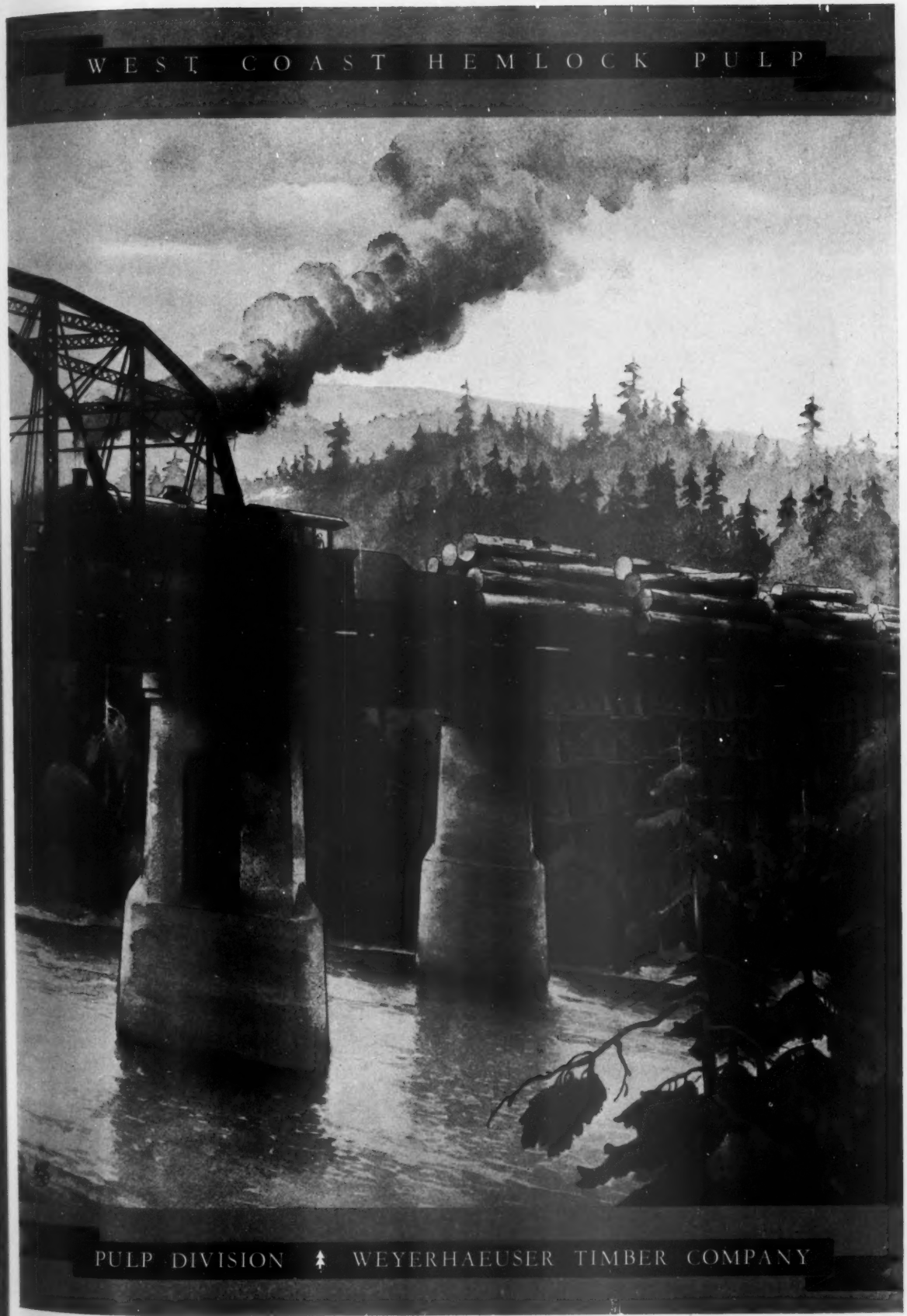
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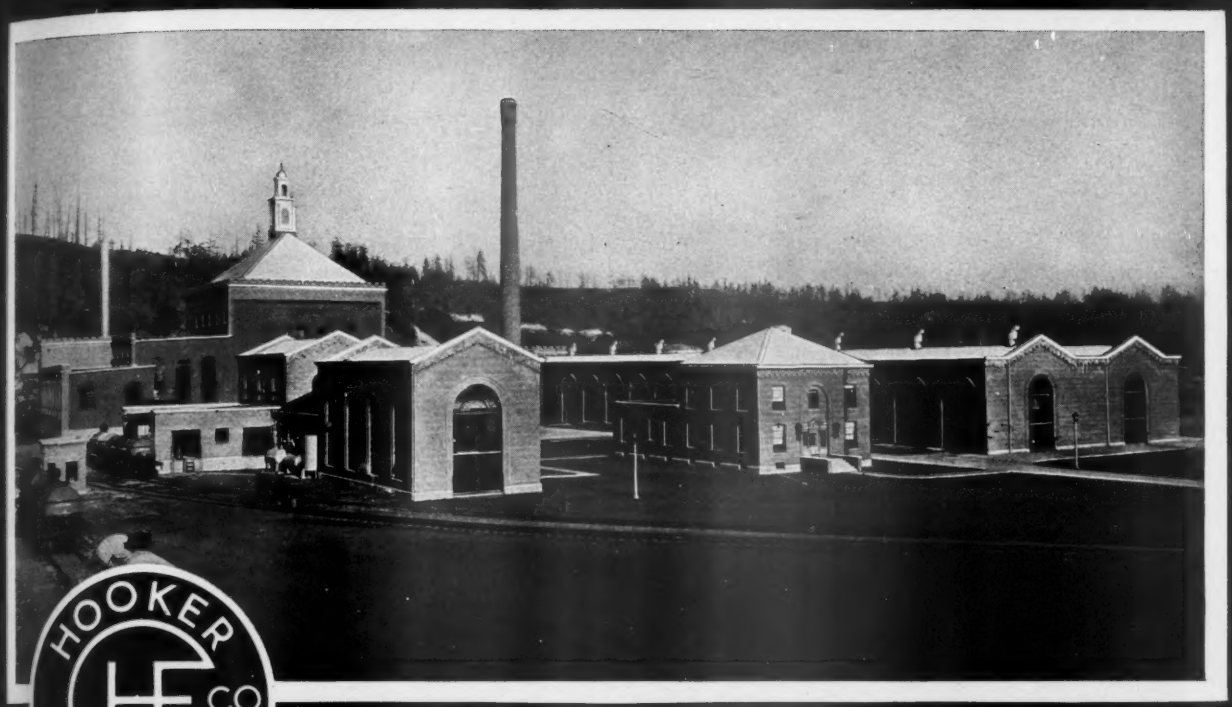

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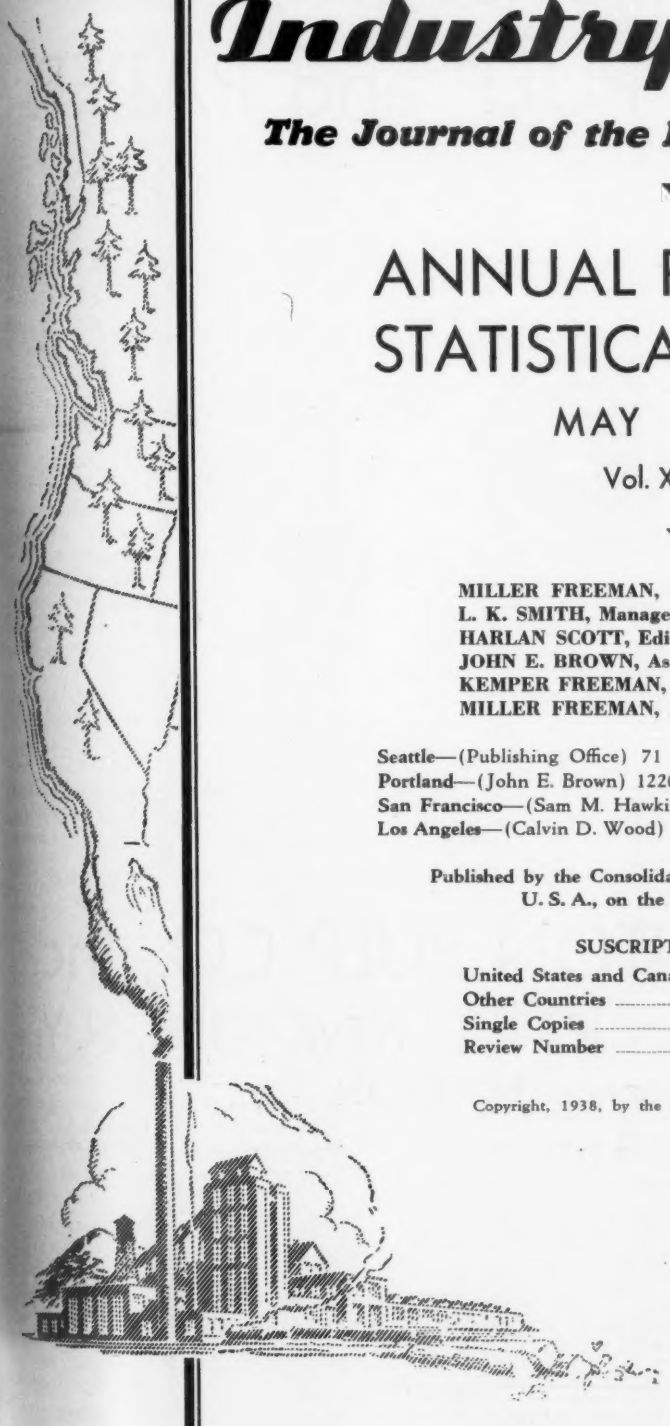
5503 A

VAST STANDS OF RAPIDLY GROWING PULPWOOD guarantee the permanence of the Pacific Northwest pulp industry » » » This aerial photograph, taken in 1937, pictures the well-watered western slopes of the Cascade Mountains with Mount Baker towering 10,750 feet above sea level in the background.

Pacific PULP & PAPER Industry



The Journal of the Pacific Coast Industry

ANNUAL REVIEW and STATISTICAL NUMBER

MAY • 1938

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Table of Contents on Page 132

SELLING AGENTS

for WOOD PULP and PAPER

BULKLEY DUNTON & CO. NEW YORK, N.Y. ESTABLISHED 1811

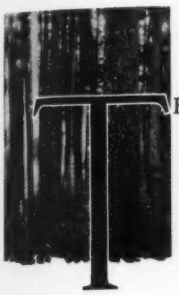
BULKLEY DUNTON PULP CO., Inc.

295 MADISON AVENUE NEW YORK, N. Y.

CABLE ADDRESS: BULKTON

A Fast Start, a Slow Finish Sums Up Coast Industry in 1937

Production of Pulp and Paper Breaks Previous Records—Washington and Oregon Produced 41% of U. S. Sulphite Pulp



THE subhead to this summary in the 1937 REVIEW NUMBER said in part, "First Half of 1937 Shows Further Improvement . . . Optimism Tempered by Caution."

"Optimism Tempered by Caution" describes the state of mind of most business during the first three quarters of 1937. Specifically, it was the attitude of the pulp, paper and board industry on the Pacific Coast. As the rush of orders began to flood the mills beyond capacity, executives could not be other than optimistic. But they were also cautious in the face of the freely made predictions that a world wide wood pulp shortage was in the making and would last for a long time. Prices were being forced up by rising costs coupled with growing demand. The threat of higher prices caused over-buying, and as we neared the end of the third quarter this purchasing beyond normal consumption in fear of price increases, began to back up.

The customers of the printers and the converting industries slowed up their buying of paper supplies because they had laid in overly ample stocks. The printers and converters reduced or cancelled their mill orders and the mills, if they bought their pulp, asked the pulp mills not to ship fourth quarter orders.

The damming up of the stream of production soon created great stocks of pulp and paper, stock far greater than average. The paper and board mills on the Pacific Coast felt the slump before the pulp mills, in the third quarter, but the pulp industry largely ignored the warnings, thinking the slump temporary. They had the matter of steady employment of their men and women very much in mind and they disliked the idea of curtailing production until it was a matter of necessity. It was not until December that the Pacific Coast pulp industry noticeably slowed up. By that time cancellations from paper mills had mounted to alarming proportions. Stocks were rising rapidly.

The above is not intended as an explanation of the depression all industry is still fighting, but only a brief reporting of the situation that developed in 1937.

●

U. S. Pacific Coast Wood Pulp Production, 1923-1937

	Tons of 2,000 lbs.
1923	299,596
1924	309,433
1925	322,594
1926	378,005
1927	449,218
1928	562,514
1929	780,494
1930	815,089
1931	817,548
1932	607,662
1933	773,102
1934	935,033
1935	1,011,421
1936	1,198,431
1937	1,485,821

British Columbia Wood Pulp Production, 1923-1937

	Tons of 2,000 lbs.
1923	217,076
1924	216,243
1925	230,733
1926	259,504
1927	296,253
1928	310,961
1929	304,619
1930	335,429
1931	310,029
1932	259,586
1933	343,897
1934	383,818
1935	377,522
1936	392,400
1937	389,000

● Although the good business which lasted for nine months of 1937 had broken down caution to a degree, causing the industry to operate and accumulate stocks when hindsight points that it should have slowed up months before it did, the generally cautious attitude of the earlier months of the year left both the pulp and paper industries on the Pacific Coast in generally sound condition when business slumped.

As will be noted by the capacity addition tables, the Pacific Coast pulp and paper industry added relatively little capacity in 1937 as compared with 1936. This fact placed the industry as a unit in a stronger position than it would have been in had a large amount of new pulp and paper capacity been brought into play just as the demand dropped off.

A Consolidation Year

● Manufacturers of pulp, paper, board and miscellaneous products on the Pacific Coast devoted their energies primarily to strengthening their respective positions in the industry. Quality was improved in both pulp and paper, which meant the expenditure of large sums. In the face of rising costs much money was invested in new and more efficient equipment for the purpose of reducing costs and maintaining the highest scale of wages in the pulp and paper industry anywhere in the world.

Although it cannot be more than an estimate, it is likely that the West Coast mills spent more money in 1937 for equipment and improvement programs than was spent on new capacity in 1936. This policy is proving to have been a wise one, but in an unexpected way. The maintenance of modern, low cost plants has enabled the mills to operate at far less than capacity and still avoid showing results in red ink.

This same policy, which is but

one reflection of good management, has enabled the Pacific Coast industry to avoid any reduction in wages.

In many ways the consolidation of position went on throughout the year. Pacific Coast wood pulp, improved in quality, brought greater prestige to its makers. It was shipped into Canada, into European countries and continued to be the largest supplier of Japan's rayon industry. With increased volume it rightfully assumed a more important position in the matter of setting pulp prices.

The reader should turn to the table Wood Pulp Prices in the U. S. and note how American wood pulp producers held down the prices of wood pulp, particularly that of bleached sulphite, in the interest of American paper mill buyers. The Pacific Coast pulp industry took the lead in holding prices to what it considered was an all-around fair price basis, refusing to take advantage of the American buyer during those several months when there was not enough bleached sulphite to satisfy the demand. This was not entirely an unselfish policy; simply a matter of smart business, a wise step in the strengthening of the position of Pacific Coast wood pulp in the American market.

Pacific Coast made paper and board, while naturally limited for its major market to territory closer to the mill than is the case with wood pulp, continued its progress in quality and in production.

Each year sees Pacific Coast made paper and board exported to more countries and used in more states in this country. Improved quality is enabling the products of Pacific Coast paper mills to move farther into the Middle West and into the Eastern seaboard.

Financial structures were overhauled in 1937. Bonds, preferred stocks and bank loans were retired or reduced. Annoying loose financial ends were cleaned up. Some companies recapitalized. There were mergers in the interest of economy and efficiency. Other organizations reassigned the duties of operating executives to simplify procedure and promote efficiency.

Employment

● The subject of employment and wage rates is treated separately farther along in this REVIEW NUMBER, but it is timely to note here, in this summary, that the industry on the Pacific Coast has operated continuously without either strike or lockout during this period of frequent tieups in other industries, which result in tremendous losses to labor, to management and to those indirectly dependent upon the affected industries.

This fine record reflects the high type of men in the industry, in the two unions and among the several managements. Labor and management have consistently exhibited a spirit of cooperation, a desire to work together so that the mills may operate profitably and pay the highest hourly wage rate for the industry in the world.

To the national and the local leaders of the two unions, the International Brotherhood of Paper Makers and the International Brotherhood of Pulp, Sulphite and Paper

PACIFIC COAST WOOD PULP PRODUCTION—1924-1937

Pacific Coast States and British Columbia
(Tons of 2,000 lbs.)

	1924 Tons	1925 Tons	1926 Tons	1927 Tons	1928 Tons	1929 Tons	1930 Tons
Washington	159,539	161,858	199,164	268,349	349,107	523,948	566,137
Oregon and California	149,894	160,736	178,841	200,869	213,407	256,546	248,952
British Columbia	216,243	230,733	259,504	296,253	310,961	304,619	335,429
Total Pacific Coast	**525,676**	**553,327**	**637,509**	**775,471**	**873,475**	**1,085,113**	**1,150,518**

	1931 Tons	1932 Tons	1933 Tons	1934 Tons	1935 Tons	1936 Tons	1937‡ Tons
Washington	580,016	420,529	583,770	709,380	775,722	895,797	1,148,682
Oregon and California	237,532	187,133	189,332	240,167	262,221	302,634	337,139
British Columbia	310,029	259,586	343,897	383,818	377,522	392,400	389,000
Total Pacific Coast	**1,127,577**	**867,248**	**1,117,999**	**1,333,365**	**1,415,465**	**1,590,831**	**1,874,821**

Source—U. S. figures up to and including 1933, from U. S. Dept. of Commerce, Bureau of Census; B. C. figures from Dept. of Lands, Forest Branch; and Dominion Bureau of Statistics.

‡ Figures based upon United States Pulp Producers Association total for Oregon and Washington, excepting soda pulp. Addition of soda pulp production and division of products between Oregon and Washington estimated by Pacific Pulp & Paper Industry. No wood pulp production in California.

PULP WOOD CONSUMPTION—1924-1937

Pacific Coast States and British Columbia

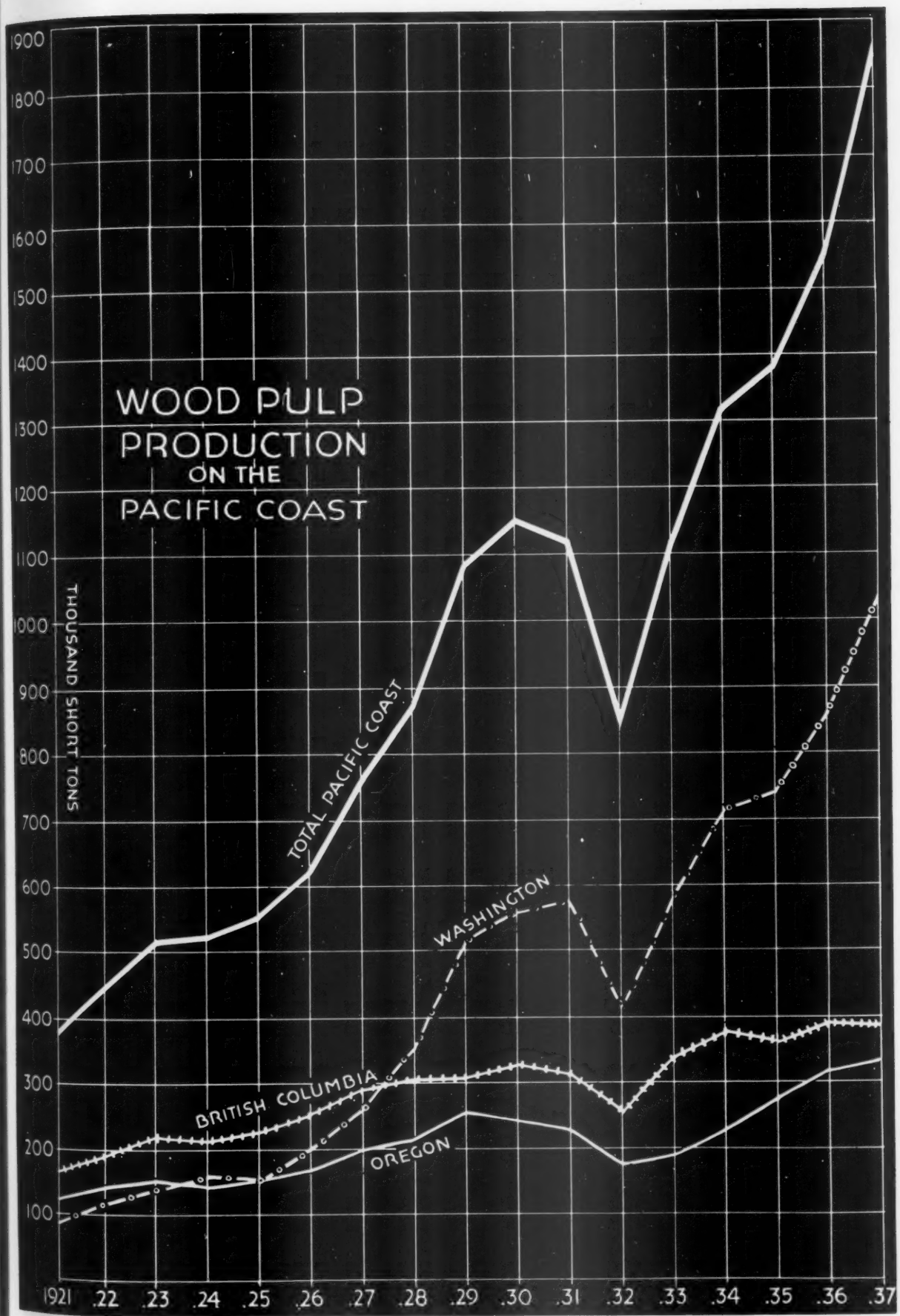
	1924 Cords	1925 Cords	1926 Cords	1927 Cords	1928 Cords	1929 Cords	1930 Cords
Washington	230,299	241,150	305,787	455,664	651,657	956,132	1,000,001
Oregon and California	205,968	209,349	232,989	267,233	308,264	340,745	351,053
British Columbia*	266,000	284,100	318,500	364,000	383,008	352,444	373,397
Total Pacific Coast	**702,267**	**734,599**	**857,276**	**1,076,899**	**1,342,929**	**1,649,321**	**1,724,451**

	1931 Cords	1932 Cords	1933 Cords	1934 Cords	1935 Cords	1936 Cords	1937‡ Cords
Washington	1,025,878	688,326	1,094,852	1,203,516	1,324,356	1,509,340	1,929,786
Oregon and California	319,876	265,470	241,841	322,287	369,327	423,839	566,394
British Columbia*	363,688	304,185	375,450	428,287	421,393	439,500	435,680
Total Pacific Coast	**1,709,442**	**1,257,981**	**1,712,143**	**1,954,092**	**2,115,076**	**2,372,679**	**2,931,860**

Source—U. S. figures from U. S. Dept. of Commerce, Bureau of Census; B. C. Figures from Dept. of Lands, Forest Branch; and Dominion Bureau of Statistics.

*British Columbia figures prior to 1928 are not shown separately and are estimated on basis of 1.23 cords of wood consumed per ton of wood pulp produced.

‡Estimated.


WOOD PULP
PRODUCTION
ON THE
PACIFIC COAST
THOUSAND SHORT TONS
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
TOTAL PACIFIC COAST
WASHINGTON
BRITISH COLUMBIA
OREGON
1921
.22
.23
.24
.25
.26
.27
.28
.29
.30
.31
.32
.33
.34
.35
.36
.37

Mill Workers, and to the intelligent members of the locals should go the credit for labor's cooperative spirit. And to the leaders of the management group credit should go for an enlightened viewpoint which has kept the Pacific Coast industry free of strikes.

The original agreement between the mills and the two unions was signed August 3rd, 1934. It was for six months, a trial period which proved satisfactory and resulted in yearly renewals upon negotiations for changes, and, until this year, in increases in wage rates. The agreement expires on May 31st of each year if either group requests a joint meeting for the purpose of negotiating changes. In 1935, 1936 and in 1937 these joint meetings were held in May and always resulted in renewals of the agreement with changes.

But this year, due to the decline in operations, the unions did not request a meeting nor did the managements, although the rates of pay in the 1937-1938 agreement are the highest in the pulp and paper industry. If neither side requests a meeting within 30 days prior to May 31st, the agreement is automatically renewed.

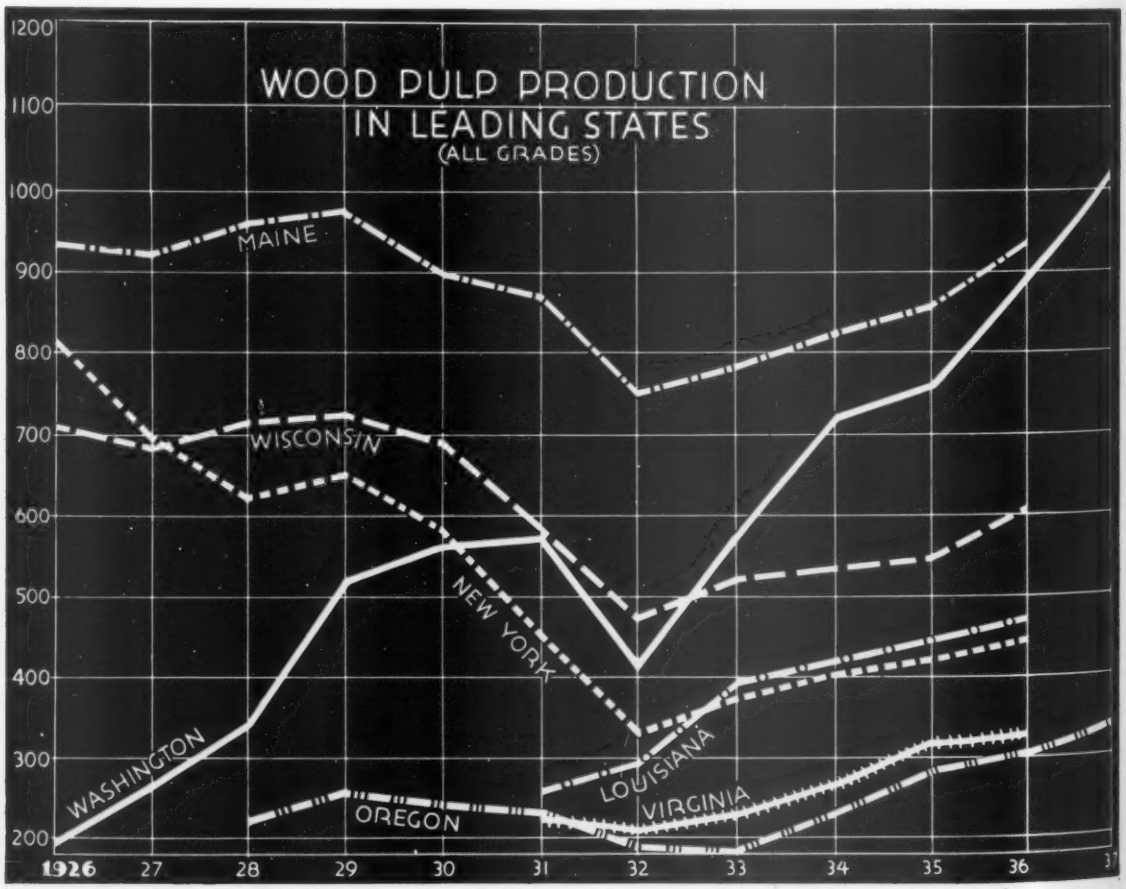
Pulp Production Higher

● The first three quarters of 1937, with their rush of business, carried the wood pulp industry of Washington, Oregon and British Columbia up to a new record of 1,874,821 short tons, an increase of 283,990 tons or 17.8 per cent. Washington

PACIFIC COAST STATES
and British Columbia
Paper Production
(Tons 2,000 lbs.)

State—	1931	1932	1933	1934	1935	1936	1937
Washington	374,765	343,222	381,997	418,115	465,708	506,579	533,000‡
Oregon	200,065	182,789	197,970	220,684	242,085	262,478	276,000‡
California	192,273	139,297	167,033	169,709	221,763	265,662	280,000‡
British Columbia	244,397	228,075	260,599	299,502	299,816	318,153	317,000
Total Coast Production	1,011,500	893,383	1,007,599	1,108,010	1,229,372	1,352,872	1,406,000

Bureau of the Census, Dept. of Commerce. British Columbia figures from the Dept. of Lands, Forest Branch.
‡1937 Washington, Oregon and California production estimated on basis of national average increase over 1936 production.



and Oregon increased their production in 1937 over 1936 but the official report of the British Columbia Department of Lands, Forest Branch, shows that British Columbia wood pulp production declined slightly, from 392,400 tons to 389,000 tons. The latter is a somewhat preliminary figure but is approximately accurate.

Washington Passes Million Ton Mark

● For the first time since the State of Washington became a wood pulp producing state its mills passed the million ton mark with an approximate production of 1,148,682 short tons. This is 252,885 tons more or 28 per cent more than the 895,797 tons produced in 1936.

Oregon with an estimated wood pulp production in 1937 or 337,139 tons increased her production 34,505 tons or 11.4 per cent over the U. S. Bureau of Census figure of 302,634 tons for 1936.

It is interesting to look back over the past decade and note the growth of pulp production from 775,471 tons in 1927 to 1,874,821 tons in 1937, an expansion of 142 per cent or 1,099,350 tons annually. In only one year, 1932, has Pacific Coast production of pulp dropped below the million ton mark. From a bottom of 867,248 tons in 1932 the increase has been steady, year by year, to the 1,874,821 tons in 1937.

In 1927 Washington produced 268,349 tons while British Columbia produced 296,253 tons and Oregon and California together (the Census Bureau grouped them together to avoid showing the production of the one pulp mill then operating in California) produced 200,869 tons. Of the total Pacific Coast wood pulp production in 1927 of 775,471 tons, Washington produced 34.6 per cent, British Columbia produced 38.2 per cent, and Oregon 27 per cent.

The year 1937 saw these percentages changed around with Washington contributing 61.3 per cent of the total; British Columbia producing 20.8 per cent and Oregon approximately 18 per cent.

Paper Production Expands, Too

● The production of paper and board in Washington, Oregon, British Columbia and California was approximately 1,406,000 tons in 1937 as compared with 1,352,872 tons in 1936. The gain was 53,128 tons or 4 per cent. Of the total Washington produced 533,000 tons, an increase of 26,421 tons, 5 per cent. Oregon showed an increase of 13,524 tons, 276,000 tons in 1937 against 262,476 tons in 1936. California with 280,000 tons production in 1937 gained 14,338 tons or 5.4 per cent.

Paper production in British Columbia declined 1,153 tons to 317,000 tons in 1937 from 318,153 tons in 1936, according to the British Columbia Department of Lands, Forest Branch. However, the 1937 production was 17,184 tons more than the 1935 paper production in British Columbia of 299,816 tons.

● Back in 1931 the paper production on the Pacific Coast, including British Columbia, Washington, Oregon and California, was 1,011,500 tons. The 1937 production of 1,406,000 tons was 394,500 tons larger, an increase of 39% in six years.

In this six year period British Columbia made an annual increase of 72,603 tons or 29.6 per cent. Washington shows an annual paper production increase in 1937 over 1931 of 158,235 tons or 42 per cent.

Oregon's paper production rose 75,935 tons annually or 37.9 per cent over the 200,065 production of 1931.

California showed the largest increase in paper production with an increase of 87,727 tons over the 1931 production of 192,273 tons, or 45.6 per cent.

40.8% of All U. S. Sulphite

● The sulphite pulp industry (U. S. only) on the Pacific Coast increased its percentage of the sulphite production in the United States to 40.8 per cent of the total in 1937. In 1936 the Pacific Coast manufactured 38 per cent and in 1935 36 per cent.

New England produced 24 per cent, the Lake states 23 per cent, the Middle Atlantic states 9.2 per cent and the South 3 per cent of the sulphite pulp manufactured during 1937.

In sulphate production the Pacific Coast had a 12.1 per cent share of the total as compared with 10 per cent in 1936 and 13 per cent in 1935. The South in 1937 claimed 75.9 per cent of the total sulphate production of the United States and the Lake States 12 per cent. This represented an increase of 9.65 per cent for the South over the 66.25 per cent in 1936; a decline for the Lake States of 7.25 per cent from the 19.25 per cent produced in 1936. The Middle Atlantic states dropped from 4.5 per cent in 1936 to zero in 1937, while the one producer in New England was included in the Lake States total to avoid disclosing individual mill production.

In groundwood the Pacific Coast claimed 20 per cent of the total United States production in 1937 against 18 per cent in 1936 and 19.5 per cent in 1935. New England led with 39.4 per cent of the total, a decline of 3.1 per cent from the 1936 figure. The Middle Atlantic States dropped from 21.5 per cent of the total in 1936 to 16.4 per cent in 1937, a decline of 5.1 per cent. Lake states increased groundwood production to 21.2 per cent of the total in 1937 from 18 per cent in 1936.

Of all grades the Pacific Coast manufactured 24.6 per cent of the total United States wood pulp production in 1937 as against 22 per cent in 1936 and 23 per cent in 1935. The South produced 30 per cent of the total against 24.5 per cent in 1936 and 26 per cent in 1935. The Lake states manufactured 18.8 per cent of the total in 1937 as compared with 19 per cent in 1936 and 20 per cent in 1935.

The Middle Atlantic states dropped from 13.5 per cent of the total in 1936 to 7.7 per cent in 1937. Their 1935 percentage was 10 per cent. New England's share in 1937

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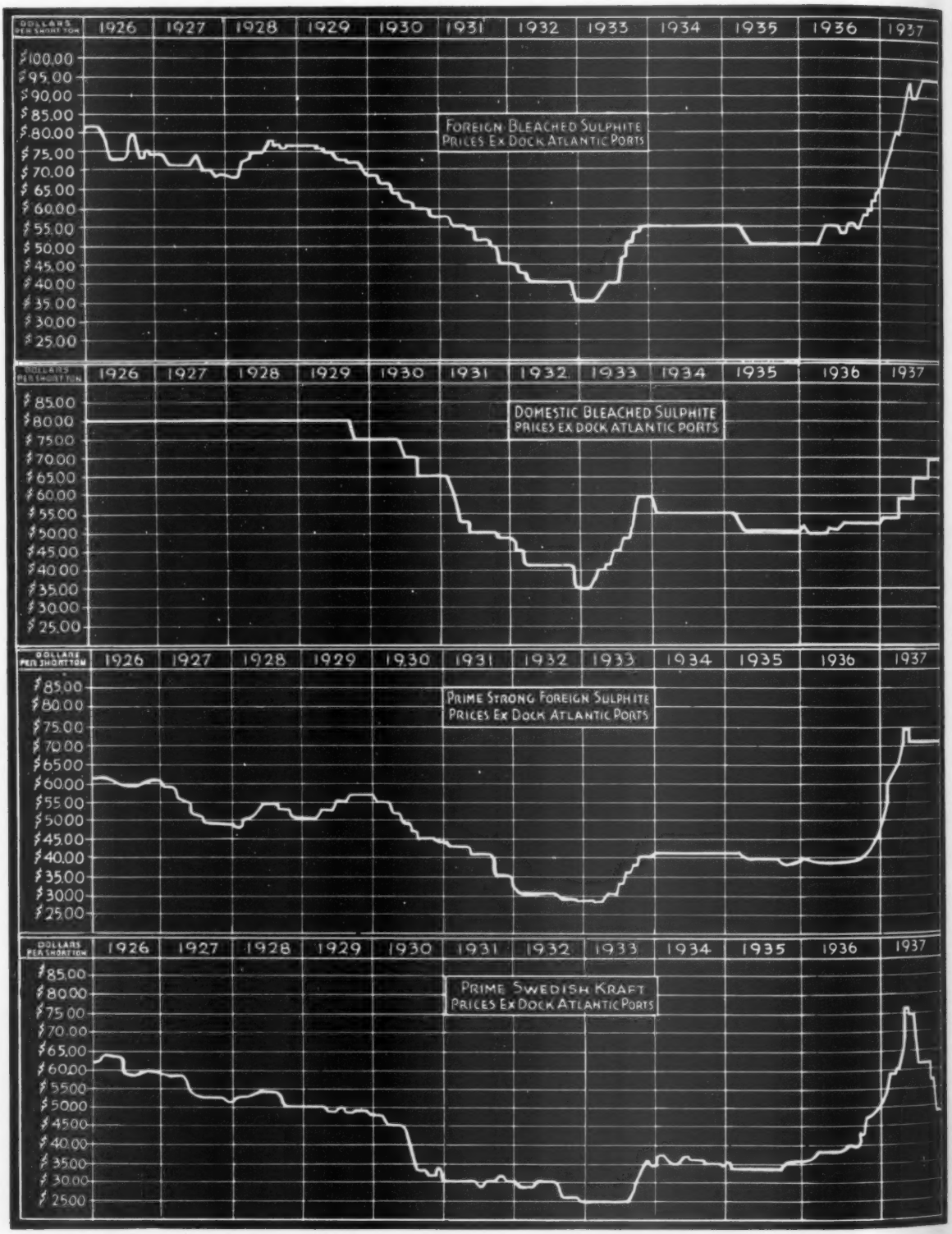
THE GRAPH ON THE COVER—

An optimistic note is struck by the graph appearing on the cover of this REVIEW NUMBER, for it shows the trend is toward a consumption of all grades of paper of 24,000,000 tons in 1950, approximately 50% greater than the preliminary report on the 1937 consumption of paper in the United States of 15,798,362 tons » » » The graph was drawn to an arithmetical vertical scale from a ratio scale graph prepared in April, 1938, by Charles W. Boyce, Executive Secretary of the American Paper & Pulp Association.

Wood Pulp Price Trends—1926-1937



was 18.9 per cent as compared with 21.5 per cent in 1936 and 21 per cent in 1935.

• The Pacific Coast produced 885,842 tons of sulphite pulps in 1937, while production in 1936 was 668,316 tons. The gain was 217,526 tons or 32.5 per cent.

Bleached sulphite production on the Pacific Coast in 1937 amounted to 530,729 tons against 371,730 tons in 1936, an increase of 158,999 tons or 42.7 per cent. Unbleached sulphite production on the West Coast last year totaled 355,113 tons while in 1936 unbleached amounted to 296,586 tons, an increase of 58,527 tons or 19.7 per cent.

Sulphate or kraft pulp production totaled 265,346 tons on the Pacific Coast in 1937. In 1936 the production was 197,743 tons. The 1937 production was 67,603 tons greater or 34 per cent.

Bleached sulphate pulp production was 170 per cent larger last year than in 1936 with 37,165 tons against 13,732 tons.

Unbleached sulphate pulp production of 228,181 tons in 1937 exceeded the 184,011 tons produced on the Pacific Coast in 1936 by 44,170 tons or 24 per cent.

Groundwood production in 1937 reached 314,633 tons against 270,395 tons in 1936. The increase was 16.4 per cent or 44,238 tons.

• The total production of wood pulp, all grades except soda, on the Pacific Coast in 1937 amounted to 1,465,821 tons. This was 309,369 tons more than the 1,156,452 tons produced in 1936 or an increase of 26.7 per cent.

The Pacific Coast produced 24.7 per cent of all the wood pulp (except soda) produced in the United States in 1937. In 1936 the Pacific Coast proportion was 22.3 per cent.

The Two Associations

• During 1937 the Pacific Coast Division of the American Pulp & Paper Mill Superintendents Association and the Pacific Section of the Technical Association of the Pulp & Paper Industry (TAPPI), continued to improve the educational value of their meetings with a resultant increase in interest and attendance.

The Superintendents held two meetings, a joint meeting with TAPPI in Vancouver, B. C., June 11th and 12th, and a meeting under their own auspices in Seattle, December 3rd and 4th.

The Technical Association concentrated upon its dinner meeting program as in the previous year in addition to the joint annual meeting with the Superintendents. The dinner meetings which were held at Portland, Vancouver, B. C., Olympia, Port Angeles (2), and Everett, provided an opportunity for a larger number of mill men to share in the benefits to be derived from the papers presented, than would be possible under a two meeting a year system.

The subjects discussed by the two associations embraced a wide field and included, Washing of Bleached Sulphite Pulp, by N. W. Coster; Pulp Washing by Diffuser, by Rex Russell; Oliver Filters in the Pulp and Paper Industry, by George S. Backus; Can British Columbia Meet Future Pulpwood Requirements, by F. Malcolm Knapp; Tests for Strike Through Resistance and Ink Absorption of Newsprint, by I. H. Andrews.

Nickel Alloy Steels and Cast Irons in the Pulp and Paper Industry, by A. G. Zima; Wood Preparation in the Pacific Northwest, by Fred Nicholson; Wood Preparation, by Paul F. Leuth.

• Recent Trends in Kraft Bleaching, by John D. Rue; The Trend in Sulphite Pulping, by Andreas Christensen; Recovery of Sulphur from Waste Smelter Gases, by W. S. Kirkpatrick.

Cost Accounting for the Pulp Mill, by Paul Miescke; Timber Supply and Its Relation to the Forest Products Industry of Northwest Washington, by Bruce E. Hoffman; The Saunders Valve in the Pulp and Paper Industry, by Roger E. Chase.

Some Factors Affecting the Life of Fourdrinier Wires, by Walter S. Hodges; Felts and the Machine, by Arthur M. Mears; What the Machine Builder Has Done to Improve the Life of Machine Clothing, by Robert T. Petrie.

WOOD PULP PRICES IN U. S.

Year—	Domestic Bleached Sulphite	Foreign Bleached Sulphite	Foreign Strong Sulphite	Swedish Kraft	Domestic Bleached Soda
1928	$80	$68 –$78	$48–$55	$50 –$55	.....
1929	75– 80	68 – 77	50– 56	47 – 50	.....
1930	65– 75	57 – 68	42– 56	30 – 47	.....
1931	45– 65	43 – 57	32– 43	28 – 31	.....
1932	35– 45	35 – 43	27– 32	25 – 30	.....
1933	35– 60	35 – 57	27– 43	25 – 37	$40–$50
1934	55– 60	55 –	42–	33 – 38	50
1935	50– 55	50 – 55	37– 42	33 – 36	50
1936	50– 53	50 – 65	38– 50	36 – 50	50– 54
1937	54– 70	65 – 95	50– 75	47 – 76	54– 65
Monthly price movement, 1937—					
January	$54	$67.50–$71.50	$51–$55	$52	$54
February	54	72 – 77	56– 59	54 – 58	54
March	54	77 – 80	59– 64	58 – 62	54
April	58	80 – 80	64– 67.50	62 – 62.50	58
May	58	85 – 95	70– 74.50	66.50– 76	58
June	58	90	72.50	76 – 74	58
July	65	90 – 92.50	72.50	74 – 64	63
August	65	92.50– 95	72.50	63	63
September	65	95	72.50	63	63
October	70	95	72.50	63 – 57.50	65
November	70	95	72.50	57.50– 52.50	65
December	70	95	72.50	47.50	65

1937 Month by Month

JANUARY — PACIFIC PULP & PAPER INDUSTRY completes a decade of service to its field, reaffirms its policy of devoting its efforts for the best interests of the pulp and paper industry on the Pacific Coast outlined in the first number, February, 1927 . . . **Western Paper** Converting pays first dividend on common stock since founding eleven years ago . . . **L. K. Larson** appointed sales manager of Pulp Division, Weyerhaeuser Timber Company . . . **Speakers** at Western Forestry and Conservation Association meeting say pulp and paper development essential to sustained yield forestry operations . . . **Powell River** resumes publication of house organ, "Powell River Digest-

FROZEN FOODS ARE GROWING IN POPULARITY » » » Another development that is opening up large markets for paper, board and transparent cellulose sheeting » » » Fresh vegetables and fruit are sealed in a Cellophane envelope, packed in good quality boxes and finally wrapped in waxed or parchment paper » » » The packing of frozen foods is expanding rapidly in the United States and especially on the Pacific Coast.

er", suspended in 1932 after ten years' service . . . **Old-timers** hold annual reunion at West Linn mill of Crown Willamette . . . **Oregon** Pulp & Paper Company offers bonds in exchange for preferred stock . . . **Dan Duggan,** superintendent of steam and motive power of the Everett Pulp & Paper Company passes away . . .

F. M. Couch, for twenty-seven years with Blake, Moffitt & Towne died in Los Angeles . . . **Inland Empire** Paper Company wins long fight for lower freight rates on newsprint into Inter-Mountain and Southwestern territories . . . **Spaulding** planning reorganization . . . **Everett** Pulp & Paper Company modernizing West Tacoma mill preparatory to resuming operations . . . **Buckley** hopes to start Prince Rupert pulp mill construction soon . . . **Sidney Roofing** starts construction of Vancouver plant . . . **Three bills** introduced in Congress asking for tariff on wood pulp and pulpwood . . . **The Coastwise Line,** a new shipping company with headquarters in Portland. Will handle coastwise shipments of pulp and paper . . . **Importers** start drive to nullify import regulations on paper, hoping to secure some relief from a portion of tariff which hold down imports . . .

O. C. Schoenwerk, designer of several Pacific Coast pulp mills, engaged by the Brunswick Pulp & Paper Company to design and supervise construction of a 150 tons per day bleached kraft pulp mill at Brunswick, Georgia . . . **Japan** takes lead in world rayon production for 1936 . . . **Powell River** Sales Company organized . . . **Columbia River** Paper Company began operation of its new sulphite pulp bleaching plant . . . **Brown Paper** Goods Company of California opens new Oakland plant . . . **George W. Houk** joins Hooker Electrochemical Company sales department . . . **Pacific Lumber** Company of Scotia, California to rebuild redwood fibre plant destroyed by fire.

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FEBRUARY — All time record set for pulp imports for eleven months of 1936 . . . **Coos Bay** resumes operations after two months shut down . . . **U. S. Gypsum** Company approves expansion of Los Angeles plant . . . **Fibreboard** announces immediate expansion of Port Angeles pulp mill. The increased production will enable them to displace pulp which they have purchased for their converting plants . . . **George Whalen** forms Nootka Wood Products, Ltd. . . . **George P. Berkey** and Don S. Denman become vice-presidents of Crown Zellerbach Corporation . . . **Expansion** of Pioneer Flintkote Los Angeles factory well under way . . . **Fibreboard** schedules complete rebuilding of Vernon machine No. 2 for immediate future . . . **Second unit** of Soundview goes into production on schedule and third unit proposed . . . **The new Weyerhaeuser** research laboratory at Longview under direction of R. S. Hatch. A service organization for the pulp and lumber divisions . . . **United States** Rayon production for 1936 increases 8 per cent over 1935 production . . .

Self-sufficiency in wood pulp production predicted for Japan . . . **Camas** circulating system starts operations . . . **R. B. Jeffreys,** assistant superintendent of development, Australian Paper Manufacturers, Melbourne, Australia, starts tour of pulp and paper mills in United States and Canada . . . **Shibley** Company organizes in British Columbia . . . **Proposal** made to merge Crown Willamette Paper Company and the Crown Zellerbach Corporation . . . **William Howarth,** president and treasurer of the Everett Pulp & Paper Company passed away February 13th . . . **Port Mellon** makes first shipments of kraft pulp . . . **B. Frank Heintzleman** appointed Alaskan Regional Forester.

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MARCH — **Powell River** denies rumor that they will install new machine . . . time not ripe for increasing production . . . **Tacoma** Chamber of Commerce announce objective to be development of an adequate supply of cheap industrial

PULP TONNAGE ADDED TO PACIFIC COAST INDUSTRY 1937-1938*

Capacities Given in Tons Per Day

Name of Mill.	Location.	Unbleached Sulphite	Bleached Sulphite	Unbleached Sulphate	Soda
Washington					
Crown Willamette Paper Co.	Camas	50	....	....	....
Soundview Pulp Co.	Everett	....	135	....	....
Puget Sound Pulp & Tbr. Co.	Bellingham	125	....	....	....
	Totals	175	135	....	....
	Total, all grades 310 tons				

*Includes pulp capacities added during second half of 1937 and first half of 1938.

PAPER AND BOARD TONNAGE ADDED TO PACIFIC COAST INDUSTRY 1937-1938*

Capacities Given in Tons Per Day

Name of Mill.	Location.	Sulphite Papers	Sulphate Papers	Book Papers	Board	Roofing
Washington						
Everett Pulp & Paper Co.	West Tacoma	....	....	35	....	....
California						
Fibreboard Products, Inc.	Los Angeles	....	....	....	10	....
Pioneer Division, Flintkote Co.	Los Angeles	....	....	....	90	....
	Totals	....	....	35	100	....
	Total, all grades .... 135 tons					

*Includes paper capacities added during second half of 1937 and first half of 1938.

THE COMPLEMENTARY RELATIONSHIP BETWEEN WOOD PULP AND LUMBER in achieving maximum utilization of the economic value of the Pacific Northwest's timber resources, is effectively illustrated by this photograph taken on the docks of the Weyerhaeuser Timber Company at Everett, Washington.

water supply . . . **Construction** of the new unit of the Rainier Pulp & Paper Company at Shelton, Washington, nearing completion . . . **The new Pomona Paper Products** plant at Pomona, California, starts production . . . **Crown Willamette** Paper Company of Camas, Washington, announce improvement and expansion program . . . **Western Paper** Products Company recently organized by Walter Busse starts manufacturing various kinds of paper bags . . . **Crown Willamette** Paper School graduates 109 students . . . **Claude W. Caine** of Chicago office of Lions International suggests to Bellingham Chamber of Commerce, utilization of waste forest products in form of fibre container plant . . .

Rainier building log break-down and chipping plant which will supply practically the entire requirements for chips . . . **Harry T. Burnham,** resident manager of Brown Paper Goods Company's new plant at Oakland . . . **M. L. Mammen** appointed by Governor Charles H. Martin of Oregon to the board of Governors of Western Safety Conference. Mr. Mammen will represent "industry" . . . **Inland Empire** completes improvements enabling production of sulphite and groundwood specialties . . . **Dave G. Jordan,** director of F. C. Huyck & Sons, on coast showing new Huyck sound moving picture to mill operators and executives . . . **Rainier** charters Motorship Brandanger to carry a large cargo of wood pulp to Japan . . . **Spaulding** Pulp & Paper Company has new dryer in full time operation . . . **Bristol** Company of Waterbury, Connecticut, appoint Shibley Company as representatives, also open service office in Seattle with M. W. Peckham as Northwest manager . . . **Blake, Moffitt & Towne,** pioneer paper distributors of the Pacific Coast buy San Francisco building to provide new and enlarged warehouse and office space for the company's headquarters . . .

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APRIL — Talk of pulp mill in Olympia; commissioners promise to investigate all possible water supplies tributary to Olympia . . . **Soundview** exercises water option . . . **Grays Harbor** starts production of new disgester unit on April 5th. Now equipped to produce 250 tons bleached sulphite pulp . . . **Rainier** starts new drying machine . . . **Union Bag** starts work on Los Angeles plant and will move their bag making plant, located at Vancouver, Washington, to be closer to major market . . . **Stockholders** approve plan of Crown Zellerbach and Crown Willamette merger on March 16th . . . **Representative** Monrad C. Wallgren of Everett introduces a new bill to enlarge boundaries of the Mt. Olympus National Monument on the Olympic Peninsula . . . **Forest Service** plant 215 million trees in 26 states . . . **Felix Pagenstecher** passes away in New York . .

Coast Newsprint mills raise 1938 prices . . . **Publishers** resent news print increase to $50 per ton for first six months of 1938 and start talking about immediate development of large newsprint industry in the southern states . . . **New Finnish** kraft pulp mills now planned will increase sulphate production to twice that of 1935 . . . **Lord Rothermere,** British publisher after visiting British Columbia warns of a likely world shortage of pulp, and declares Canada has "a golden op-

portunity" . . . **New fuel** handling system installed at Port Alice . . . **E. C. Manning,** chief forester of the province of British Columbia states one of the surest means of effecting forest conservation lies in increasing the markets for hemlock . . . **Ossian Anderson** predicts Tacoma's future lies in pulp industry . . . **Council** of the European Sulphite Organization decide to increase output of sulphite wood pulp . . . **Crown Willamette** Paper Company, division of the Crown-Zellerbach Corporation at Camas, Washington, installing 25 ton sulphite digester . . . **British Columbia** mills protest new shipping taxes . . . **Port Renfrew** Pulp & Timber Company incorporated at Victoria . . . **Rayon plants** to be established in China as semi-governmental enterprises . . . **Portland** Chamber of Commerce forms pulp committee to promote growth of industry . . . **A rayon** plant in the Pacific Northwest is feasible says W. C. McIndoe . . . **Ethyl** cellulose shows promise of providing new market for dissolving pulps . . .

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MAY — Pacific States Paper Trade Association holds twentieth annual meeting at Del Monte. Victor Hecht, vice-president of Zellerbach Paper Company, elected president . . . **PACIFIC PULP & PAPER INDUSTRY** 10th Annual Review and Statistical Number. Data shows pulp and paper industry on Pacific Coast broke records in 1936 with increased production. Much new construction outlined. Imports of wood pulp break all records in 1936 . . . Foreign pulp supplied 81 per cent of all pulp purchased by American paper mills in 1936. Domestic mills sold American buyers 19 per cent . . . **Trade Agreements** injuring price structure of certain grades of American paper . . . **Pacific Coast** exported 82 per cent of all pulp exported from the United States in 1936. Rayon expansion throughout world to require more wood pulp of dissolving grades. Many new products added to Pacific Coast industry's list during 1936 . . . **I. Zellerbach** pays tribute to memory of William Howarth, at Del Monte meeting . . . **Kenneth "Cap" Shibley** passes in Seattle . . .

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JUNE—Ossian Anderson, President, Puget Sound Pulp & Timber Company, announces construction of 125 tons per day unbleached sulphite pulp mill unit for Bellingham, Washington . . . **Alex Galloway** dies in San Francisco . . . **Wage contract** between pulp and paper manufacturers on the Pacific Coast and two pulp and paper brotherhoods renewed with base rate increase . . . **Unions** established at Powell River . . . **W. P. Lass** manufacturing flower pots from paper and pulp . . . **St. Regis** making full bleached kraft at Tacoma from Western hemlock . . . **Work started** on new 25 ton unit at Camas mill of Crown Willamette Paper Company . . . **Soundview** ac-

UNITED STATES
WOOD PULP PRODUCTION BY REGIONS—1937

Source—United States Pulp Producers Association
(Tons of 2000 Pounds)

Region.	Total All Grades	Total Sulphite	Bleached Sulphite	Unbleached Sulphite	Total Sulphate	Bleached Sulphate	Unbleached Sulphate	Groundwood
West Coast	1,465,821	885,842	530,729	355,113	265,346	37,165	228,181	314,633
New England	1,124,475	500,664	331,828	168,836	[2]	0	[2]	623,811
Middle Atlantic	460,610	199,658	84,594	115,064	0	0	0	260,952
Lake States	1,116,633	518,479	367,492	150,987	262,126	37,244	224,882	336,028
South	1,769,361	65,357	65,357	.....	1,657,028	155,091	1,501,937	46,976
Totals	5,936,900	2,170,000	1,380,000	790,000	2,184,500	229,500	1,955,000	1,582,400

[2] Production included in Lake States total so as not to disclose individual mill's operations.
Total of above grades only. Does not include soda pulp, damaged off-quality and miscellaneous grades of pulp. (About 15,000 tons of soda pulp was produced on the Pacific Coast in 1937—Editor).
Source: As reported to the United States Pulp Producers Association by 94 per cent of the industry and estimated for the remaining 6 per cent.

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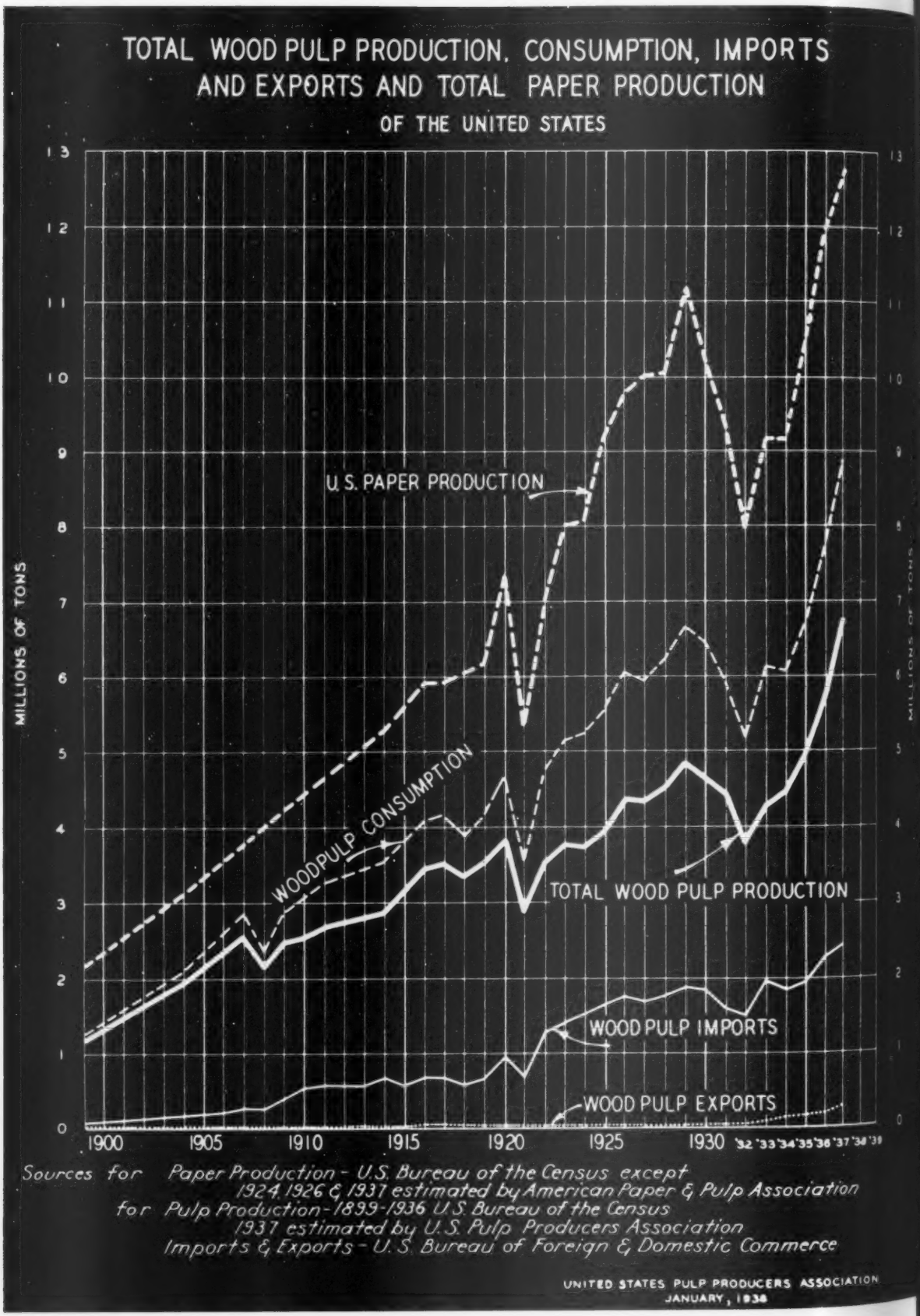
REGIONAL PERCENTAGES OF UNITED STATES WOOD PULP PRODUCTION
Total and by Grades in 1935, 1936 and 1937

	Sulphite			Sulphate			Groundwood			Total		
Region.	1935	1936	1937	1935	1936	1937	1935	1936	1937	1935	1936	1937
New England	24%	23.3%	24.0%	[1]	[1]	[1]	41%	42.5%	39.4%	21%[1]	21.5%	18.9%
Middle Atlantic	13%	12.8%	9.2%	0%	4.5 %	0 %	18%	21.5%	16.4%	10%	13.5%	7.7%
Lake States	23%	23.3%	23.0%	17%[1]	19.25%	12.0%	19½%	18.0%	21.2%	20%	19.0%	18.8%
South	4%	2.6%	3.0%	70%	66.25%	75.9%	2%	[2]	3 %	26%	24.5%	30 %
West Coast	36%	38.0%	40.8%	13%	10 %	12.1%	19½%	18.0%	20 %	23%	22.0%	24.6%
Total[3]	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: As reported to the U. S. Pulp Producers Association by 94 per cent of the industry and estimated for the remaining 6 per cent.
[1] Production for 1935 and 1936 included in Middle Atlantic States. Production for 1937 included in Lake States total so as not to disclose individual mill's operations.
[2] Same as above.
[3] Total of above grades only. Does not include soda pulp, damaged, off-quality and miscellaneous grades of pulp.


TOTAL WOOD PULP PRODUCTION, CONSUMPTION, IMPORTS AND EXPORTS AND TOTAL PAPER PRODUCTION
OF THE UNITED STATES
MILLIONS OF TONS
U.S. PAPER PRODUCTION
WOODPULP CONSUMPTION
TOTAL WOOD PULP PRODUCTION
WOOD PULP IMPORTS
WOOD PULP EXPORTS
0
1
2
3
4
5
6
7
8
9
10
11
12
13
1900
1905
1910
1915
1920
1925
1930
'32 '33 '34 '35 '36 '37 '38 '39
Sources for Paper Production - U.S. Bureau of the Census except
1924, 1926 & 1937 estimated by American Paper & Pulp Association
for Pulp Production - 1899-1936 U.S. Bureau of the Census
1937 estimated by U.S. Pulp Producers Association
Imports & Exports - U.S. Bureau of Foreign & Domestic Commerce
UNITED STATES PULP PRODUCERS ASSOCIATION
JANUARY, 1938

quires large timber holdings of Lyman Timber Company . . . **Joint** meeting of American Pulp and Paper Mill Superintendents Association and the Pacific Section of TAPPI held June 11th at Vancouver, B. C. . . . **George H. McGregor** elected chairman of Pacific Section of TAPPI . . . **A. H. B. Jordan** elected to presidency of Everett Pulp & Paper Company to succeed the late William Howarth . . . **Wood** utilization curriculum at University of Idaho is outlined . . . **B. W. "Bert" Libby,** night superintendent for the Rainier Pulp & Paper Company, passed away . . . **Heintzleman** sees possibilities for Alaska . . . **Powell River** enters pulp export field . . . **Shipping space** continues at premium for British Columbia pulp and paper exporters . . . **Champagne Paper** Company forms California subsidiary, California Central Fibre Corporation . . .

Japanese Staple Fibre production rising . . . **M. L. Mammen** elected general chairman of Western Safety Conference . . . **Newsprint** costs rising . . . Los Angeles **paper mill** men hold third annual hi-jinks . . . **Dan Woodward** head of John W. Graham & Company of Spokane, Washington, passes . . . **Northwest Lead** Company announce opening of new plant in Seattle . . . **G. M. Kline,** chief of the National Bureau of Standards Section on organic plastics, calls attention to rapidly increasing use of plastics in building construction . . . **Walter De Long** named operating manager and Ralph Roberg named sales manager of Puget Sound Pulp & Timber Company . . .

JULY—Japanese extend British Columbia timber holdings, increasing shipments of pulpwood logs to Japan . . . **Fernandina** Pulp & Paper Company organized by interests associated with Rainier Pulp & Paper Company, Grays Harbor Pulp & Paper Company and Olympic Forest Products Company, announce plans to start construction of 180 ton mill at Fernandina, Florida . . . **A. E. McMaster** returns to industry as managing director of Nootka Wood Products, Ltd. . . . **Bell-Irving** elected vice-president of Powell River . . . **Cavin,** Marshall & Barr form pulp and paper mill engineering firm . . . **British Columbia Pulp** & Paper Company's expansion program will increase productive capacity of Port Alice and Woodfibre mills . . . **Pacific Coast** bleached sulphite capacity exceeds all of Canada by 23 per cent . . . **Pacific Mills Limited** shows net profit nearly double that for preceeding fiscal year . . . **W. J. Pilz** announces that the West Tacoma paper mill of Everett Pulp & Paper Company will start operation July 15th . . . **Safety** work reduces Oregon insurance rate . . . **Japanese** cellophane industry growing . . .**British Columbia** exports 93 per cent of news print production . . . **Pacific Coast** Box Makers hold twenty-third meeting at Del Monte . . . **Redwood Fibre Products** Company of Gresham, Oregon, equipping their plant to make chip board . . . **Western Containers** of Seattle announces an expansion program which will give them 50 per cent larger floor space . . . **Grays Harbor** to build new warehouse and dock . . . **Four month's** pulp imports up 12.4 per cent over same 1936 period . . . **Story** on the new sulphite circulating system at Camas mill of Crown Willamette . . .

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AUGUST — Puget Sound Pulp & Timber Company stockholders approve proposal to construct a new unbleached sulphite pulp mill at Bellingham, Washington, with a daily capacity of 125 tons. Cavin, Marshall & Barr are engineers in charge of design and construction . . . **Soundview Pulp** Company completes two year expansion program bringing daily capacity up to 485 tons per day of bleached sulphite pulp. Now world's largest bleached sulphite pulp mill . . . **Fernandina** Pulp & Paper Company to be headed by Cylde B. Morgan, formerly vice-president of S. D. Warren Company . . . **Death takes A. S. Brooks,** chairman of the board of the Powell River Company . . . **Coast** pulp and paper mills show improved financial statements . . . **Citrus industry** requires large volume of Pacific Coast made paper . . . **No reserve** stocks of rayon yarn at midyear . . .

. . . **Dobeckmun** Company of Cleveland, Ohio, purchase Oakland California, plant . . . **Spaulding** Pulp and Paper Company averaging about 80 tons per day . . . **Second pulp mill** proposed for Prince Rupert . . . **Powell River** and Pacific Mills sign union agreement . . .

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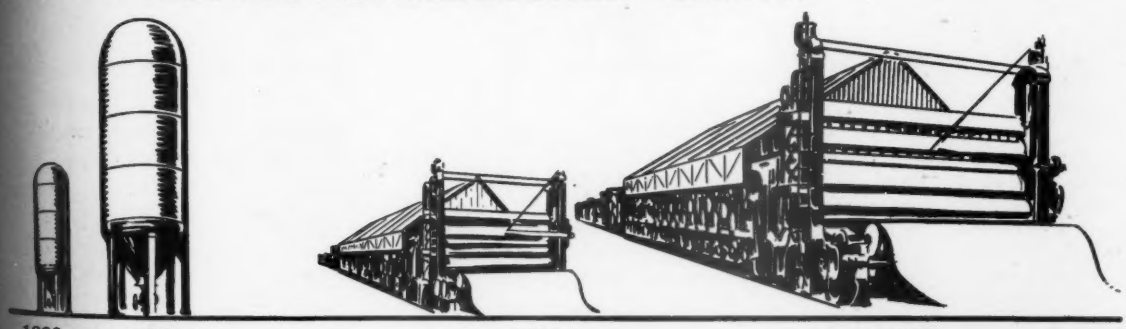
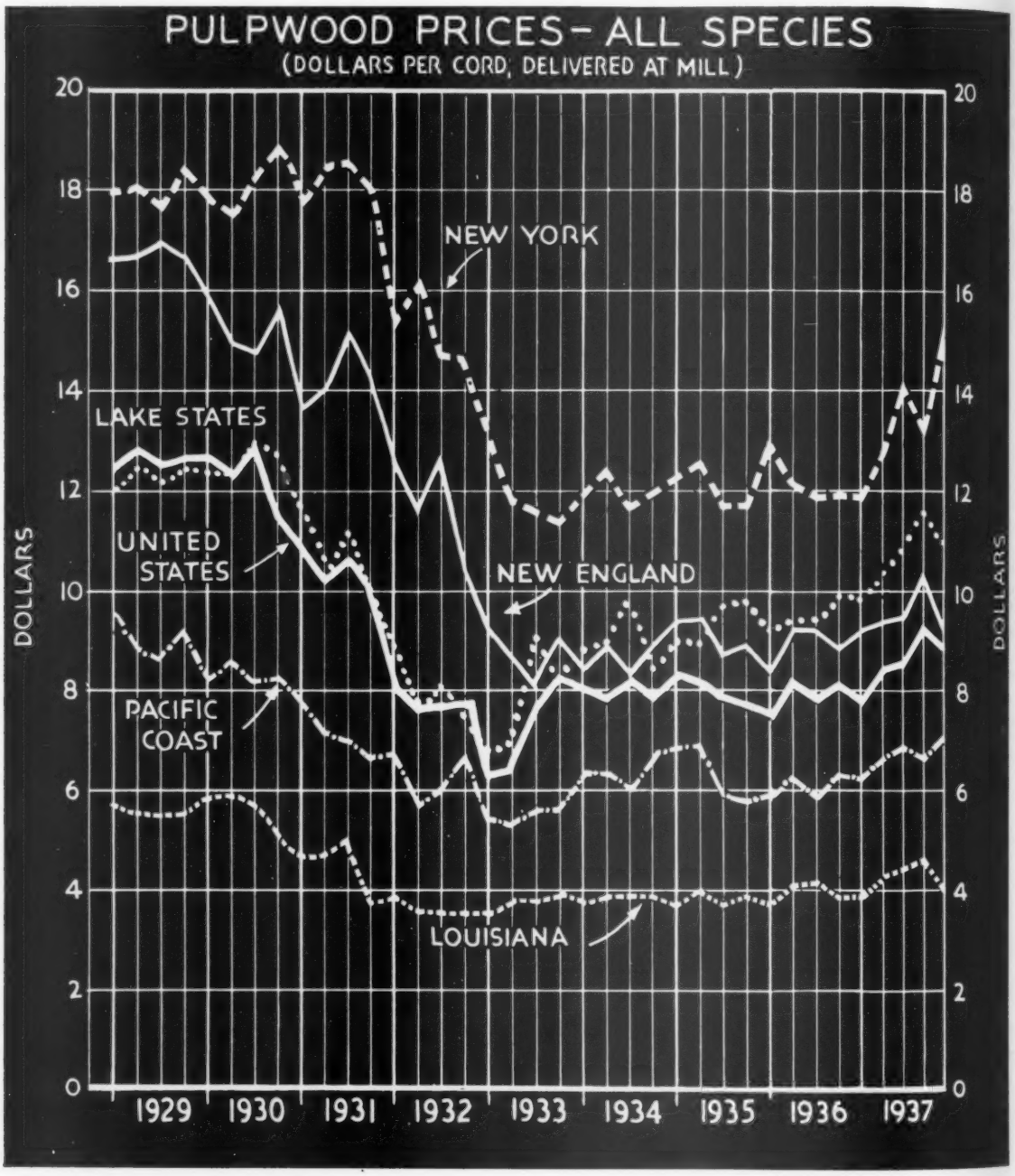
COMPARATIVE GROWTH
Of PACIFIC COAST PULP and PAPER INDUSTRY — 1923-1937



Total Daily Capacity All Grades of Pulp
1923—2,045 tons
1937—7,062 tons. Increase: 245%.

Total Daily Capacity All Grades of Paper and Board
1923—2,056 tons
1937—4,957 tons. Increase: 141%.



Source: American Paper & Pulp Assn.

California-Oregon Paper Mills' Los Angeles plant installing No. 4 paper machine . . . **Four** different groups of financiers negotiating for sites and concessions for pulp mill projects in British Columbia . . . **Wood pulp prices** lower than for foreign pulp of similar grades . . . **Stockholders** approve recapitalization of Rainier, Grays Harbor and Olympic Forest Products . . . **Enquiries** being made into the lightweight paper field developed by the growing air commerce of the United States and Canada . . . **Albany Felt** Company presents movie "The Art of Felt Making" at a dinner in Longview . . . **Rayon manufacturers** in first six months of this year establish a new expansion record . . . **Staple fiber** of growing importance in Germany; synthetic fiber production increased three times in three years . . . **The Continental Bag** Specialties Company, Pacific Coast Division began operations in their new plant in Los Angeles . . . **The United States Paper** Company, Los Angeles, completed reorganization plan . . .

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SEPTEMBER—Foreign pulp reported nearly 80 per cent sold for 1938. . . . **Port Mellon** mill resumes making kraft after two months shutdown. . . . **Japanese** tariff entirely removed from Canadian newsprint and reduced on all wood pulp. . . . **Japanese wood pulp** imports for first six months of 1937 up 34 per cent over same period in 1936. . . .

Rumor of merger of Rainier Pulp & Paper Company, Grays Harbor Pulp & Paper Company and Olympic Forest Products Company. . . . **Ossian Anderson** announces that new Bellingham unbleached sulphite pulp mill under construction will be ready for operation by April 1st, 1938. . . . **State of Washington** heads all states in 1936 consumption of pulpwood. . . . **England** begins buying Pacific Coast wood pulp. . . . **Columbia** River Paper Mills offers to exchange bonds for outstanding preferred stock. . . .

Three Paraffine Companies executives together represent a century of service to the company — R. S. Shainwald, chairman of the board, 45 years; R. H. Shainwald, his son, senior vice-president and treasurer, 23 years; and, W. H. Lowe, president, 32 years. . . . **Paraffine** launches half million dollar improvement program at Emeryville, California, plant. . . . **Lebanon,** Oregon, shows its appreciation of steady operation of Crown Willamette mill. . . . **Asphalt** now being sold in multiwall paper bags. . . . **High** spot prices reported for newsprint. . . . **Publishers** increase newsprint stocks. . . . **Staple** fiber production in Japan shows remarkable growth. . . . **Blake, Moffitt & Towne** move into new San Francisco building. . . . **Polo injury** fatal to Howell H. Howard, executive of the Howard group of paper mills and well known on the Pacific Coast.

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OCTOBER—Construction of Puget Sound Pulp & Timber Company's Bellingham mill ahead of schedule. Plan to have unit operating in March, 1938. . . . **R. B. Wolf** returns from abroad. . . . **Spaulding** directors decide to go ahead with proposed improvements. . . . **Purchase** of additional British Columbia timber by Japanese brings question of foreign timber ownership and export of logs to the fore. . . . **Rayonier Incorporated** to be new name of company absorbing Rainier Pulp & Paper, Grays Harbor Pulp & Paper and Olympic Forest Products Companies. . . . **Rayon leaders** predict continued growth. . . . **Japan** forms rayon pulp import control association. . . . **Roderic Olzendam** says "Timber Is a Crop." . . . **O. C. Schoenwerk** to build mill for Marathon Paper Mills near Port Arthur, Ontario. . . . **Paper mill** men of southern California hold third annual hi-jinks and sport carnival. . . . **Oregon** preparing practical pollution bill to be submitted to voters in November, 1938. . . . **Commercial Paper** Company erects new building in San Francisco. . . .

D. C. Beck, northwest representative for the International Brotherhood of Pulp Sulphite & Paper Mill Workers, dies from injuries received in auto accident. He was employed by Columbia River Paper Mills and was very active in union work. . . . **M. D. tissue,** produced by Pacific Coast Paper Mills is now made entirely of St. Regis bleached kraft pulp. . . . **James Duval,** founder of Perfection Twine Company of Camas, sells major interest to Howard Wall and Eberly Thompson. . . . **Dixie-Vortex** to open plant in Los Angeles for making cups and paper specialties. . . . **Paterson** Parchment plant converts parchment into many products in San Francisco. . . . **Spaulding** making bond payments. . . . **Stebbins** Engineering Corporation formed in Washington as subsidiary of parent organization Stebbins Engineering & Manufacturing Company of Watertown, New York. A. S. Quinn, vice-president and manager. . . . **Powell** River buys major part of pulpwood used. . . . **Commercial Paper** Corporation moves into larger building in San Francisco. . . .

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NOVEMBER—Edward M. Mills, elected president of Rayonier Incorporated; J. D. Zellerbach, executive vice-president, upon completion of merger of Rainier Pulp & Paper Company, Grays Harbor Pulp & Paper Company and Olympic Forest Products Company, into one organization, Rayonier Incorporated . . . **Soundview** starts construction of new chipping plant and revision of log breakdown facilities . . . Oakley W. Dexter, director of purchases for Crown Zellerbach Corporation, elected president of the Purchasing Agents Association of Northern California . . . **Lyman M. Smith,** general manager of the Inland Empire Paper Company, Spokane, dies suddenly . . . **Formal** applications for 1938 Japanese pulp imports filed with Japanese government. Show increase over 1937 imports . . .

George Pusey dies at Oregon City—well known by paper makers as superintendent of the Hawley

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BRITISH COLUMBIA

Review of Pulp and Paper Production

1919-1937

	—PULP—		Tons	—PAPER—	
	Sulphite	Sulphate	Groundwd	News Print	Other
1937	.....	.....	.....	264,000	53,000
1936	.....	.....	.....	276,710	41,443
1935	.....	.....	.....	262,123	33,287
1934	130,176	15,630	209,359	267,406	26,777
1933	122,265	15,715	185,451	237,107	23,492
1932	85,419	10,889	161,502	205,050	24,051
1931	124,521	11,744	170,432	217,562	17,709
1930	130,462	13,055	172,539	224,928	20,446
1929	112,925	15,647	151,066	201,009	19,492
1928	120,413	15,050	170,005	225,477	15,960
1927	119,005	13,700	163,548	214,010	13,745
1926	108,381	15,000	136,123	176,924	10,389
1925	92,514	16,856	121,363	148,201	9,261
1924	89,839	14,403	112,001	136,281	9,653
1923	99,878	9,932	107,266	142,928	7,709
1922	86,894	9,674	100,759	124,639	7,945
1921	68,502	6,519	89,725	110,176	6,934
1920	92,299	16,380	108,655	136,832	9,792
1919	80,347	9,473	99,769	123,607	7,202

	Total Production All Grades—Tons		Estimated value
	Pulp	Paper	of production:
1937	389,000	317,000	.....
1936	392,400	318,153	$14,950,000
1935	377,522	299,816	10,708,145
1934	383,818	299,502	10,347,123
1933	323,431	260,599	10,852,000
1932	259,586	228,075	11,156,000
1931	310,029	244,397	13,508,000
1930	316,056	245,374	16,520,000
1929	279,638	220,501	14,400,000
1928	305,468	241,437	16,755,000
1927	296,253	227,755	18,505,000
1926	259,504	187,313	16,315,000
1925	230,733	157,462	14,466,000
1924	216,243	145,934	13,938,000
1923	217,076	150,637	15,018,000
1922	197,327	132,584	12,590,000
1921	164,746	117,110	13,500,000
1920	217,334	146,624	.....
1919	189,589	130,809	.....

Source—British Columbia, Department of Lands, Report of the Forest Branch.

Pulp & Paper Company for many years . . . **Coast men** attend Fall meeting of TAPPI at Savannah, Georgia . . . **Expansion program** of the Pioneer Division, The Flintkote Company, Los Angeles, now completed . . . **University** of Washington obtains W.P.A. grant for construction of experimental pulp plant in new chemistry building . . . **Robert B. Wolf,** general manager, Pulp Division, Weyerhaeuser Timber Company, honored by the "Paper Maker", organ of the Hercules Powder Company's Paper Makers Chemical Division . . . **Coast newsprint** to be $50 in 1938 . . . **C. J. Buck**, regional forester, announces lowest three year fire loss record in North Pacific Region . . . **Legislation** proposed in British Columbia to prohibit log exports to Japan, now increasing . . . **Dan Dupuis,** manager of Crown Willamette at Lebanon, Oregon, leaves to assume general manegership of the Ste. Anne Paper Company at Beaupre, Quebec . . . **Daniel Bagley Hall,** new chemistry and chemical engineering building at the University of Washington, Seattle, dedicated.

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DECEMBER — Clarified forest service policy urged by Western Forestry and Conservation Association meeting in Portland, December 8, 9 and 10 . . . **Plans** for merger of California-Oregon Paper Mills of Los Angeles with Columbia River Paper Mills nearing completion . . . **Superintendents** hold big meeting in Seattle, December 3 and 4 . . . **L. S. McCurdy,** paper mill superintendent of the Port Townsend Division of Crown Zellerbach Corporation, elected chairman of the Pacific Coast Division of the American Pulp & Paper Mill Superintendents Association . . . **British Columbia's** legislature passes drastic legislation for the protection and perpetuation of forests . . . **Oliver Greenwalt** killed while hunting . . . **William R. Gibson** acquires Shibley Company forming new company, Northwest Filter Company . . . **Spaulding Pulp** & Paper Company resumes operations . . . **British Columbia** log export problem discussed in business and political circles . . . **Paul F. Middlebrook** named manager of Crown Willamette at Lebanon . . . **Tom Beaune,** sulphite superintendent of Fibreboard Products, Incorporated at Port Angeles, honored at Superintendents' meeting in Seattle as oldest superintendent in point of service on the Pacific Coast . . .

Where Pacific Coast Mills Are Located

Locations of operating pulp, paper, board and roofing mills on the Pacific Coast of North America » » » The distance from Ocean Falls, B. C., to Los Angeles is over 2,000 miles.

New Production Records Set by U. S. Pulp, Paper and Board in 1937

Operations at Capacity During First Nine Months of the Year

THE momentum gained during 1936 carried pulp paper and board production in the United States to an all time peak in 1937 before the drop came in the last quarter of the year, a drop that carried the American Paper & Pulp Association's production ratios from 96 per cent down to 54 per cent.

Like the rapid upturn the equally fast drop took the majority of United States pulp, paper and board manufacturers. It is said in retrospect that evidences of an impending drop were visible in July of last year, but few manufacturers took cognizance of the warning signs. The majority felt that while the demand for pulp, paper and board was abnormal the decline would come about gradually and would stop at a fairly profitable level.

After the abrupt drop in volume the recovery is slower than had been hoped. Five months of 1938 have passed and the average for the industry is less than 70 per cent of normal. Pacific Coast paper manufacturers are faring better than the average for other regions of the United States but West Coast wood pulp producers are still running on minimum schedules. Their improvement must await better operating schedules by their customers in the Middle West, the East and in foreign countries. Stocks of wood pulp are going down but more slowly than had been either hoped or actually expected. But with imports of pulp declining month by month and American production of pulp for market at around 55 per cent the situation cannot help but improve in the third and fourth quarters of 1938.

Pulp Production and Consumption

● According to the United States Pulp Producers Association, American pulp mills produced 6,600,000 short tons of all grades, including soda pulp, in 1937. This was an increase over 1936 wood pulp production of 904,781 tons or 15.88 per cent. American bleached sulphite pulp production was 1,380,000 tons in 1937 compared with 1,127,939 tons in 1936, a gain of 262,061 tons or 23 per cent.

Unbleached sulphite production in the United States in 1937 amounted to 790,000 tons against 693,903 tons in 1936. The 1937 increase was 96,097 tons or 13.8 per cent.

Bleached sulphate production in 1937 totaled 229,500 tons while in 1936 production was but 155,581 tons. This gain of 73,919 tons was an increase of 47.5 per cent. Unbleached sulphate production reached 1,995,000 tons in 1937 as against 1,639,153 tons in 1936, the gain being 315,847 tons, 19.2 per cent.

Groundwood production in this country for 1937 totaled 1,582,400 tons against 1,475,620 tons in 1936, an increase of 106,780 tons or 7.2 per cent. Soda pulp production was 449,215 tons, an increase of 45,807 tons over the 1936 production of 403,408 tons.

Wood pulp production in the United States in 1937 exceeded 1929 production by 1,737,115 tons or an increase of 35.5 per cent.

It is estimated by the United States Pulp Producers Association that this country consumed a total of 8,692,489 tons of all grades of wood pulp in 1937. Imports of wood pulp in 1937 totaled 2,394,539 tons against 2,277,829 tons in 1936, an increase of 116,710 tons or 5.1 per cent.

Paper Production and Consumption

● Paper and board production in the United States set new records in 1937 as well as wood pulp. The estimated production of paper for

U. S. PAPER PRODUCTION—1933-1937*

(Tons of 2,000 lbs.)

	1933	1934	1935	1936	1937
Total—All Grades	**9,190,017**	**9,186,226**	**10,479,095**	**11,975,552**	**12,600,000**
Newsprint	928,332	989,705	947,717	938,287	962,700
Book papers	1,080,196	1,055,247	1,281,870	1,438,046	1,525,000
Coated Book	.....	207,044	249,696	301,883	.....
Paperboard	4,076,290	4,073,309	4,695,890	5,454,637	5,700,000
Wrapping	1,440,029	1,357,438	1,632,054	1,879,323	1,966,000
Writing	478,356	414,542	507,325	603,853	616,000
Cover	12,697	17,011	20,806	24,000	26,800
Tissue	406,760	398,770	473,314	494,721	525,000
Absorbent	79,832	78,953	95,179	105,000	.....
Building	328,275	327,866	440,704	549,701	600,000
All Other	359,250	266,341	177,192	238,117	678,500

*Bureau of Census, U. S. Department of Commerce, Census of Manufacturers for 1933, 1934, 1935 and 1936 data. 1937 estimates by the American Paper and Pulp Association and allied associations.

all grades in 1937 is 12,600,000 tons. This was 624,448 tons more than the 1936 production of 11,975,552 tons reported by the U. S. Bureau of Census, Census of Manufactures, the increase in 1937 amounting to 5.2 per cent.

Consumption of paper and board in the United States during 1937 is estimated by the American Paper & Pulp Association as having been 15,798,362 tons. This is 1,142,651 tons larger than the estimated consumption in 1936 or 7.8 per cent.

The increased production was distributed among all grades. Imports increased in value from $110,112,348 for paper and paper manufactures in 1936 to $137,069,991, a rise of $26,957,643, or 24.5 per cent.

Prices of practically all grades increased during 1937 and held through the end of the year, but dropping slightly in the first half of 1938. Some grades did not decline. The price structure in the paper industry has so far withstood the drop in consumption far more successfully than it did in 1931 and 1932.

UNITED STATES

Paper and Woodpulp Production and Consumption
Consumption of Domestic and Imported Pulpwood and Total Pulpwood Consumption

Specified Years, 1899-1937

Year—	PAPER		WOODPULP		CONSUMPTION OF PULPWOOD		
	Production (tons)	Consumption (tons)	Production (tons)	Consumption (tons)	Domestic (cords)	Imported (cords)	Total (cords)
1899	2,167,593	2,158,000	1,179,525	1,216,254	1,617,093	369,217	1,986,310
1904	3,106,696	3,049,824	1,921,768	2,091,006	2,477,099	573,618	3,050,717
1909	4,216,708	4,224,000	2,495,523	2,856,593	3,207,653	793,954	4,001,607
1914	5,270,047	5,496,164	2,893,150	3,556,377	3,641,063	829,700	4,470,763
1917	5,919,647	6,255,725	3,509,939	4,148,600	4,706,327	773,748	5,480,075
1918	6,051,523	6,387,066	3,313,861	3,869,746	4,506,276	744,518	5,250,794
1919	6,190,361	6,479,490	3,517,952	4,113,911	4,445,817	1,032,015	5,477,832
1920	7,334,614	7,846,827	3,821,704	4,696,035	5,014,513	1,099,559	6,114,072
1921	5,356,317	6,053,915	2,875,601	3,544,218	3,740,406	816,773	4,557,179
1922	7,017,800	8,007,088	3,521,644	4,756,105	4,498,808	1,050,034	5,548,842
1923	8,029,482	9,339,573	3,788,672	5,149,695	4,636,789	1,236,081	5,872,870
1924	.....	.....	3,723,266	5,216,265	4,720,191	1,047,891	5,768,082
1925	9,182,204	10,590,090	3,962,217	5,590,304	5,005,445	1,088,376	6,093,821
1926	.....	.....	4,394,766	6,096,279	5,489,517	1,276,490	6,766,007
1927	10,002,070	11,915,233	4,313,403	5,960,865	5,526,889	1,224,046	6,750,935
1928	10,403,338	12,447,841	4,510,800	6,239,641	5,750,689	1,409,411	7,160,100
1929	11,140,235	13,347,925	4,862,885	6,704,341	6,411,566	1,233,445	7,645,011
1930	10,169,140	12,314,819	4,630,308	6,463,185	6,089,852	1,105,672	7,195,524
1931	9,381,840	11,403,850	4,409,344	6,005,718	5,896,446	826,320	6,722,766
1932	7,997,872	9,733,764	3,760,267	5,083,446	4,891,424	741,699	5,633,123
1933	9,190,017	10,919,391	4,293,344	6,027,088	5,933,295	628,379	6,561,674
1934	9,186,266	11,185,682	4,281,428	5,969,633	5,943,223	973,978	6,917,201
1935	10,506,195	12,490,886	4,944,226	6,877,869	6,590,942	1,037,332	7,628,274
1936	11,670,000	14,546,046	5,695,219	7,420,829	7,506,156	1,209,760	8,715,916
1937	12,600,000	15,798,362	6,600,000	8,692,489	8,377,132	1,522,868	9,900,000

Source: Bureau of the Census, Federal Trade Commission, United States Forest Service and A. P. & P. A. Bureau Foreign and Domestic Commerce.
Cords: 128 cubic feet.
*Pulpwood requirement is a computed figure which represents the pulpwood required to manufacture the total paper consumption of a year.
‡Not strictly comparable with other data under same head. Refers to wood actually imported during the year, whereas other figures refer to imported wood actually consumed during year.

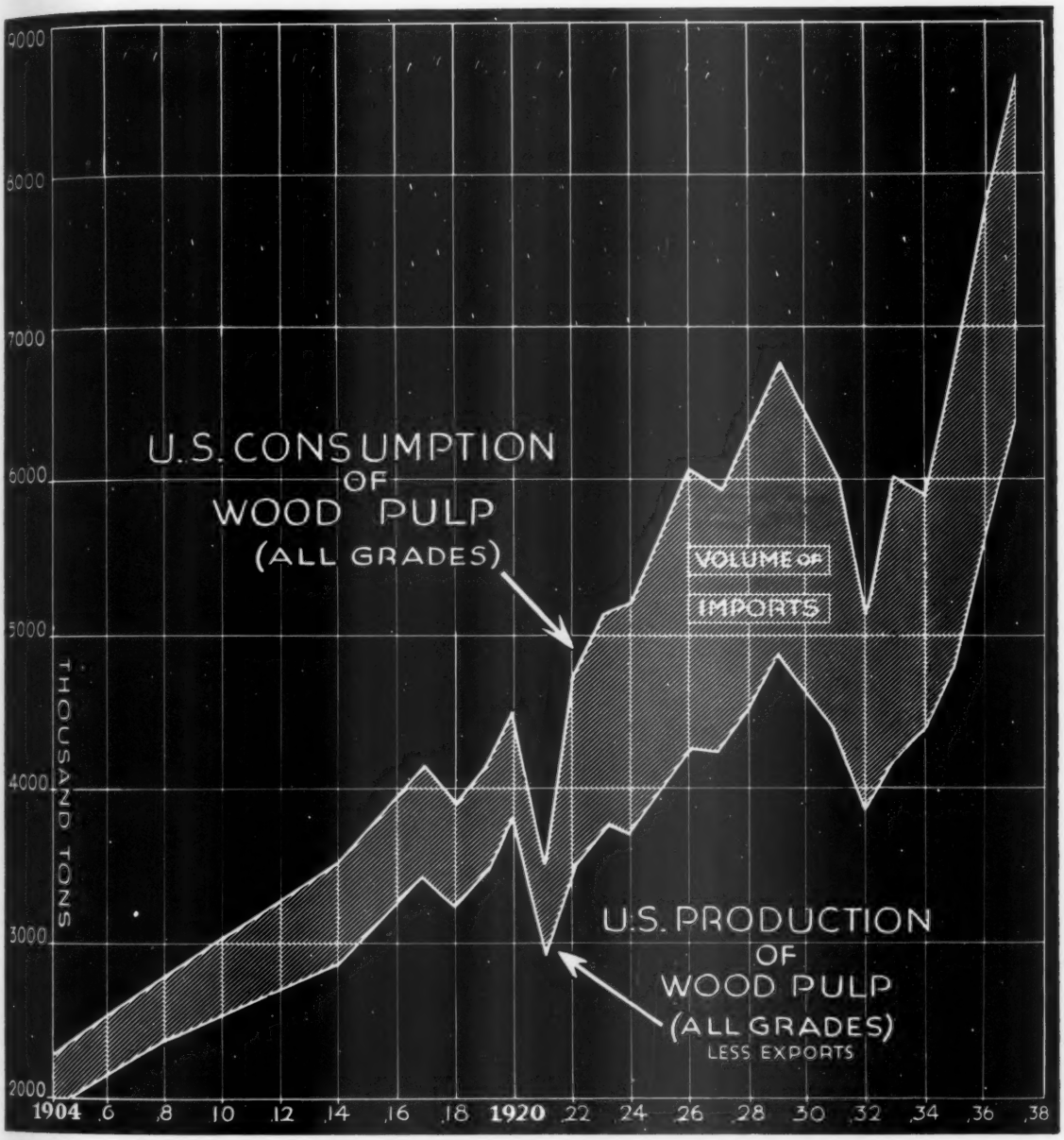
PRODUCTION OF PAPERBOARD AND CONSUMPTION AND STOCKS OF WASTE PAPER

(85 Selected Manufacturers)

(Short Tons)

Year and Month—1937.	Production	Rated Capacity	Consumed	Per Cent of Capacity	Stocks of Waste Paper, End of Mo. at Plants
January	365,665	371,916	295,554	79.5	211,295
February	373,431	344,832	295,477	85.7	196,570
March	428,506	389,546	339,242	87.1	197,977
April	436,610	376,091	341,597	90.8	211,628
May	397,073	374,605	330,250	88.2	234,239
June	380,882	376,081	287,504	76.4	257,185
July	346,721	389,069	274,463	70.5	254,554
August	365,287	376,081	287,443	76.4	258,064
September	348,091	400,580	287,858	71.9	277,797
October	334,619	376,081	256,162	68.1	293,818
November	267,567	366,817	213,378	58.2	290,037
December	239,093	382,908	189,948	49.6	319,552
Total (Year, 1937)	**4,283,545**	**4,524,607**	**3,398,876**	**75.1**	.....
Total (Year 1936)	**3,658,871**	**4,333,547**	**3,081,662**	**71.1**	.....
Total (Year 1935)	**3,294,055**	**4,203,940**	**2,745,395**	**63.3**	.....
Total (Year 1934)	**2,642,733**	**4,189,923**	**2,393,973**	**50.2**	.....
Total (Year 1933)	.....	**3,245,183**	**2,033,175**	**62.7**	.....
Total (Year 1932)	.....	**3,633,531**	**2,151,194**	**59.2**	.....
Total (Year 1931)	.....	**3,598,254**	**2,391,368**	**66.5**	.....
Total (Year 1930)	.....	**3,789,427**	**2,572,445**	**67.9**	.....

At the end of 1934 the Bureau of Census, Department of Commerce, ceased reporting shipments of paperboard and stocks of paperboard at end of month.



TOTAL UNITED STATES PRODUCTION OF WOOD PULP
By Grades—1925-1937*

(Tons of 2000 pounds)

Year.	Total	Unbleached Sulphite	Bleached Sulphite	Total Sulphate	Groundwood	Soda	All Other
1925	3,962,217	790,510	612,576	409,768	1,612,019	472,647	64,697
1926	4,394,766	911,729	646,466	519,960	1,764,248	496,920	55,463
1927	4,313,403	872,411	680,288	603,253	1,610,409	487,478	59,564
1928	4,510,800	836,751	722,107	774,225	1,610,988	488,641	78,088
1929	4,862,885	848,754	839,953	910,888	1,637,653	520,729	104,908
1930	4,630,308	815,897	751,166	949,513	1,560,221	474,230	79,281
1931	4,409,344	675,859	740,812	1,034,291	1,449,240	374,054	135,088
1932	3,760,267	548,702	596,937	1,028,846	1,203,044	290,703	92,035
1933	4,276,204	601,102	726,473	1,259,351	1,197,553	457,790	33,935
1934	4,281,428	599,905	806,612	1,240,967	1,253,398	477,089	35,457
1935	4,944,226	611,084	983,664	1,467,749	1,355,819	489,238	36,672
1936	5,715,000	680,000	1,150,000	1,817,000	1,496,000	531,960	40,040
1937	6,600,000	790,000	1,380,000	2,184,500	1,582,400	449,215	213,885

*Source: From 1925 through 1933 and for 1935, U. S. Bureau of Census. 1934, 1936, 1937 data from United States Pulp Producers Association.

TIRE FABRIC OF WOOD PULP » » » a revolutionary advance in tire construction which promises to greatly increase the consumption of dissolving pulps » » » After seven years of research, the RAYOTWIST cord tire was introduced in 1937 by the Goodyear Tire & Rubber Company for the most severe truck and bus service » » » Known as the YKL, this tire has definitely proved its superiority over the finest cotton fabric tire by delivering far greater mileage, frequently double or more » » » This superiority lies in the ability of the specially developed viscose rayon filaments to withstand high temperatures without failure, in rayon's ability to carry the strain of a tougher tread, and to the continuous rayon filaments which produce a fabric free of defects.

UNITED STATES

Paper Board—Operation, Production, Orders[1]

(.012 of an inch or more in thickness)

Year and Month—1937.	—Operation—(Inch hours[1]—(Based on last dryer width) Rated Capacity	Operated	Per Cent of Capacity	—Production—(Short tons)— Rated Capacity	Output	Per Cent of Capacity	New orders (Short tons)	Unfilled orders end month (Short tons)
January	15,359,197	12,245,898	79.7	445,686	365,665	82.0	407,716	221,409
February	14,277,332	12,327,520	86.3	414,796	373,431	90.0	386,781	236,011
March	16,366,534	14,171,655	86.6	467,701	428,506	91.6	453,621	265,575
April*	16,528,775	14,750,097	89.2	470,851	436,610	92.7	419,702	243,486
May*	15,399,621	13,298,991	86.4	437,266	397,073	90.8	346,525	194,458
June*	16,654,846	12,581,325	75.5	473,069	380,882	80.5	329,244	146,138
July*	16,738,295	11,647,090	69.6	488,591	346,721	71.0	331,375	143,401
August*	16,258,798	12,246,074	75.3	482,682	365,287	75.7	348,685	129,745
September	16,276,557	11,630,152	71.5	487,172	348,091	71.5	324,216	108,467
October	16,327,294	11,073,060	67.8	488,232	334,619	68.5	315,122	88,775
November	15,939,070	9,133,349	57.3	477,417	267,567	56.0	254,781	74,173
December	16,703,890	8,298,847	49.7	500,394	239,093	47.8	237,701	74,484
Total (Year 1937)	**192,830,209**	**143,404,058**	**74.4**	**5,633,857**	**4,283,545**	**76.0**	**4,155,469**	.....
Total (Year 1936)	**176,217,757**	**129,343,411**	**73.4**	**5,001,147**	**3,658,871**	**73.2**	**3,720,996**	.....
Total (Year 1935)	**178,529,564**	**119,579,631**	**67.0**	**4,861,628**	**3,294,055**	**67.8**	**3,281,525**	.....
Total (Year 1934)	**176,800,951**	**105,201,235**	**59.5**	**4,767,029**	**2,839,705**	**59.6**	**2,807,470**	.....
Total (Year 1933)	**165,594,126**	**105,986,270**	**64.0**	**4,619,730**	**2,912,374**	**63.0**	**2,913,370**	.....
Total (Year 1932)	**138,115,824**	**75,979,629**	**55.0**	**3,904,824**	**2,152,045**	**55.1**	**2,148,991**	.....
Total (Year 1931)	**137,218,968**	**91,894,961**	**67.0**	**3,879,836**	**2,556,851**	**65.9**	**2,527,024**	.....
Total (Year 1930)	**139,179,840**	**96,843,592**	**69.6**	**3,917,436**	**2,699,595**	**68.9**	**2,685,373**	.....

*Revised.

[1]Monthly statistics compiled from data furnished by the National Paperboard Association from reports of members, and by manufacturers reporting direct to the Bureau of Census, are pesented in the above tables. These statistics were released by Director W. L. Austin, Bureau of the Census, Department of Commerce.

Rated (24-hour) capacity data for paperboard machines in inch hours hours in this report are based on last dryer width whereas those shown in the reports for 1932 and earlier years were based on maximum trim width. The capacity data vary according to the normal number of working days in each month.

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SUMMARY FOR 1937 OF UNITED STATES WOOD PULP PRODUCTION, SHIPMENTS and STOCKS*

Tons of 2,000 lbs., air dry weight.

	Production	Shipments—Used	Shipments—Domestic Market	Shipments—Export	Stocks on Hand End of Period—12/31/37	Stocks on Hand End of Period—1/1/37
Total All Grades, 1937[1]	6,599,970	5,472,308	722,693	302,050	170,571	70,240
Total Sulphite	2,170,000	1,267,414	543,607	292,163	110,194	43,378
Total Bleached Sulphite	1,380,000	713,647	408,938	207,589	74,850	25,024
Total Unbleached Sulphite	790,000	553,767	134,669	84,574	35,344	18,354
Total Bleached Sulphate	229,500	204,716	18,978	500	6,620	1,314
Total Unbleached Sulphate	1,955,000	1,906,160	36,408	1,900	14,732	4,200
Total Soda	449,215	342,172	100,976	6,067	.....	.....
Total Groundwood	1,582,400	1,542,694	20,720	.....	38,930	19,944
Total[2] Other Pulps	213,855	209,152	2,004	1,420	95	1.404

*Source: United States Pulp Producers Association.

[1] As reported to the United States Pulp Producers Association by mills in the United States representing 94 per cent of the industry's productive capacity.

[2] Includes miscellaneous grades for which no classifications are shown.

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ESTIMATED UNITED STATES CONSUMPTION OF WOOD PULP

By Grades—1925-1937*

(Tons of 2000 pounds)

Year.	Total	Unbleached Sulphite	Bleached Sulphite	Total Sulphate	Groundwood	Soda	All Other
1925	5,590,214	1,426,610	921,291	772,079	1,943,111	469,897	57,226
1926	6,095,279	1,603,433	964,952	913,024	2,068,007	495,127	50,736
1927	5,960,915	1,546,349	1,015,172	997,438	1,856,008	485,208	60,740
1928	6,239,814	1,541,817	1,054,512	1,217,573	1,860,187	485,907	79,818
1929	6,696,322	1,612,459	1,192,370	1,358,181	1,911,114	518,533	103,665
1930	6,414,760	1,543,265	1,095,312	1,371,847	1,859,453	474,369	70,514
1931	5,952,741	1,255,770	1,074,334	1,453,501	1,659,804	376,040	133,292
1932	5,194,367	1,094,831	922,381	1,402,954	1,391,509	291,224	91,468
1933	6,189,602	1,225,537	1,153,778	1,821,656	1,407,832	580,799	
1934	5,969,633	1,217,097	1,148,891	1,776,471	1,442,772	301,552	82,850
1935	6,705,765	1,398,677	1,315,725	2,079,091	1,545,860	453,722	76,327
1936	7,799,015	1,398,677	1,542,640	2,555,097	1,723,778	495,472	83,351
1937	8,692,489	1,625,040	1,684,372	2,916,315	1,800,822	453,475	212,465

*Consumption: Production plus imports minus exports. 1937 data from United States Pulp Producers Association.

Foreign Pulp Supplied 79.32% Of U. S. Market in 1937

American Producers Sold 20.68% — A Gain of 1.96% Over 1936

DESPITE expanded production through new mills in the South, enlarged pulp plants on the Pacific Coast and capacity operation of almost all pulp mills in other producing regions, those American mills that make pulp for sale gained but little in their percentage of the 1937 United States pulp market. The gain was 1.96 over the 1936 share bringing American producers' sales to 20.68 per cent of the domestic market, or 621,717 short tons (soda pulp not included).

Foreign wood pulp producers supplied American paper mills with 79.32 per cent or 2,384,212 short tons of the total of 3,005,929 short tons purchased by United States paper mill in 1937 (soda pulp is not included in this comparison as data on domestic sales of soda pulp were not available for publication prior to 1937. Sales of domestic soda pulp to domestic buyers in 1937 amounted to 150,976 short tons. Imports of soda pulp last year amounted to 10,327 short tons).

In 1936 foreign wood pulp supplied 81.28 per cent of the 2,795,265 short tons bought by United States paper mills or 2,265,092 short tons, while American producers sold American buyers 530,173 short tons or 18.72 per cent of their total purchases.

The American Share

● United States pulp mills sold 621,717 short tons or 91,544 short tons, 17.26 per cent, more wood pulp to domestic paper and board mills in 1937 than in 1936 when sales were 530,173 tons. As compared with 1935 when American pulp mills sold 443,811 tons to domestic buyers, the 1937 sales represented an increase of 177,906 short tons or 40 per cent. Sales in 1936 increased 86,362 short tons or 19.5 per cent over those to American purchasers in 1935.

Of the 621,717 tons of wood pulp sold in 1937 to domestic mills by United States pulp producers 543,607 tons were the sulphites. Bleached sulphite sales amounted to 408,938 tons and unbleached sales to 134,669 tons. The total sulphite pulp sales represented an increase of 49,282 tons or 9.9 per cent increase over 1936 sales.

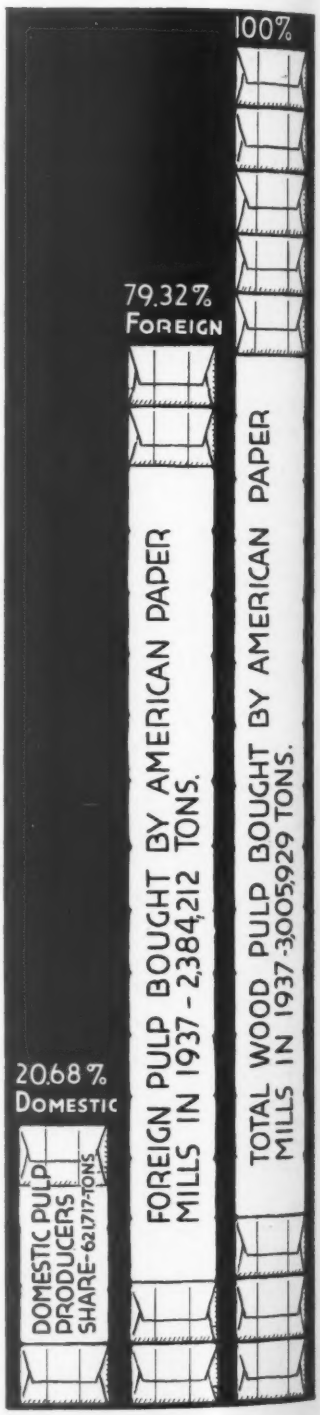
Sales of bleached sulphite increased 17,686 tons or 4.5 per cent over those in 1936, while unbleached sulphite sales gained 31,596 tons or 30.6 per cent.

Sales of sulphate pulps by domestic producers to American buyers in 1937 amounted to 55,386 short tons or 39,534 tons more than the 15,852 tons sold in 1936, a gain of 205 per cent. The 1937 sulphate sales consisted of 18,978 tons of bleached sulphate and 36,408 tons of unbleached sulphate. The bleached sulphate represented an increase of 17,401 tons over the 1,577 tons sold in 1936 or a gain of 1,103 per cent.

Groundwood sales by domestic producers to American consumers regained the ground lost in 1936 from 1935, attaining 20,720 tons as against 18,568 tons in 1936 and 20,508 tons in 1935.

The Foreign Share

● For the third successive year imports of wood pulp into the United States again set a new record with 2,394,539 short tons valued at $98,298,022 as compared with 1936 imports of 2,277,829 short tons of a value of $82,891,000. The 1937


100%
79.32% FOREIGN
20.68% DOMESTIC
DOMESTIC PULP PRODUCERS SHARE-621717-TONS
FOREIGN PULP BOUGHT BY AMERICAN PAPER MILLS IN 1937 - 2,384,212 TONS.
TOTAL WOOD PULP BOUGHT BY AMERICAN PAPER MILLS IN 1937-3005929 TONS.

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In 1937—

American Paper Mills Bought 3,005,929 Tons of Wood Pulp
Of This Total FOREIGN Pulp Mills Supplied 2,384,212 Tons
Of This Total AMERICAN Pulp Mills Supplied 621,717 Tons

(Soda Pulp not included)

imports represented a gain of 5.1 per cent in tonnage, 116,710 tons, and 18.5 per cent in value, $15,407,022, over the 1936 figures. The 1936 imports registered a gain of 17.8 per cent in quantity and 17.1 per cent in value over 1935.

Imports of bleached sulphite pulp dropped 207 tons from 512,168 tons in 1936 to 551,961 short tons in 1937. Unbleached sulphite imports registered a large gain, 919,614 tons, 132,894 tons or 16.9 per cent over the 786,720 tons imported in 1936.

Bleached sulphate imports for 1937 totaled 111,862 short tons, 9,487 or 9 per cent above the 102,375 tons imported in 1936. Unbleached sulphate imports dropped in 1937 to 622,353 tons from 635,722 tons in 1936, a decline of 13,369 tons or 2.1 per cent. Imports of groundwood pulp also declined from 227,778 tons in 1936 to 218,422 tons in 1937, a drop of 9,156 tons, or 4.2 per cent.

Germany Reducing Wood Imports

The question of raw material supplies presents one of the leading problems in the paper industry. Pulpwood is in demand in ever increasing quantities not only by the paper industry but also by the staple fiber industry. State and private forestry interests are making strenuous efforts to meet the enormous demands for pulpwood. It is reported that deliveries from the forests are rising from month to month and that these efforts are meeting with a wholesale support from consumers who are now willing to accept qualities which would formerly have been refused. In line with these efforts, the policy of curtailing imports of pulpwood has continued, receipts during the first 9 months of last year amounting to only 1,129,432 metric tons (metric ton equals 2,204.6 pounds), as against 1,781,517 metric tons during the corresponding period in 1936. Soviet Russia is still the most important source for this material although imports from that country have appreciably declined, as well as have imports from Finland and Czechoslovakia. In the meantime, Austria and Latvia have assumed an increasing importance this year.

Hand in hand with plans for opening new domestic raw material sources, the authorities continue a campaign for the increased use of straw and old papers in paper production. The construction of a number of straw plants for the manufacture of chemical pulp and paper from straw is planned. A new order dated September 29, 1937 was issued in connection with the greater utilization of old papers. Special attention was called to paper sacks, a material which has been going to waste in enormous quantities. It was directed that in the future old kraft paper sacks should be disposed of only to dealers in waste materials and to institutions accredited as such by the controlling board. Dealers will obtain their licenses conditional upon furnishing their material to institutes properly equipped for sorting, cleaning, and all necessary handling of the sacks. Private persons may not deal in old sacks, and burning them is strictly prohibited.

At the same time steps have been taken to make an additional amount of wood available to the paper industry. (American Consulate General, Frankfort-on-Main.)

National Forest Estimates Completed

The preeminence of the national forests of Oregon and Washington in the total national forest timber set up of United States is shown by Forest Research Notes No. 22, "Timber Volume and Type Acreage on the National Forests of the North Pacific Region" recently published in mimeographed form by the Pacific Northwest forest experiment station. This report includes data on all national forest land of the two states except a small area in extreme northeastern Washington belonging to the northern forest region (headquarters, Missoula, Montana), and a very small area in southern Oregon which is part of the California region.

These first reliable figures on national forest timber are the result of the complete forest survey for the two states which in turn was part of the nationwide forest survey begun several years ago, the experiment station points out.

The survey estimates that the national forests of this region contain a sawtimber volume of nearly 263 billion board feet log scale. Converted to lumber tally this approximates 300 billion board feet which is 54 per cent of the estimated total sawtimber volume of all the national forests in the United States. It is nearly one-fifth of all the softwood sawtimber in the country. Oregon national forests contain 60 per cent and Washington forests 40 per cent of the regional national forest volume. The Willamette forest with headquarters at Eugene, Oregon, ranks first in timber volume with a total of nearly 40 billion board feet; the Olympic forest is second with approximately 34 billion board feet and the Umpqua (headquarters, Roseburg, Oregon), the Columbia (headquarters, Vancouver, Washington), and the Mount Hood rank next with more than 22 billion board feet each.

Douglas fir comprises 46 per cent of the total volume and ponderosa pine 14 per cent.

In arriving at final estimates, coniferous stands in western Oregon and western Washington were classified as of merchantable size, if most of the volume was in trees more than 16 to 20 inches in diameter breast high. In eastern Oregon and eastern Washington they were so classified, if most of the volume was in trees 12 inches and more in breast high diameter. All coniferous types below merchantable size were classified as second growth.

Containing well over a third of the two states' saw timber, the national forests are a vital force in planning a sustained-yield program that will assure the forest industries of Oregon and Washington a permanent supply of raw material, according to the U. S. Forest Service. The volume of available mature timber as well as the capacity for growth on the national forests are fundamental factors in determining sustained yield possibilities, forest officials point out. As a part of the forest survey all forest land in the two states was classified according to its ability to produce forest crops, and computations are now being made to determine the present and potential forest growth.

Total timber supply of the two states is approximately 45 per cent of that of the whole nation.

PROPORTION OF UNITED STATES MARKET FOR PULP SUPPLIED BY AMERICAN PULP MILLS AND FOREIGN PULP MILLS*—1935-1936-1937

Tons—2,000 Lbs.

TOTALS By Grades.	1935 Pulp Produced By U. S. Mills for Sale in Domestic Market—1935	1935 Pulp Imported Into the United States 1935	1936 Pulp Produced By U. S. Mills for Sale in Domestic Market—1936	1936 Pulp Imported Into the United States 1936	1937 Pulp Produced By U. S. Mills for Sale in Domestic Market—1937	1937 Pulp Imported Into the United States 1937
Total—All Grades (Except Soda Pulp)[1]	443,811	1,933,631	530,173	2,265,092	772,693	2,394,539
Total—Sulphite	412,631	1,122,448	494,325	1,298,888	543,607	1,431,575
Bleached Sulphite	328,460	429,423	391,252	512,168	408,938	511,961
Unbleached Sulphite	84,921	693,026	103,073	786,720	134,669	919,614
Total—Sulphate	8,207	611,342	15,852	738,097	55,386	734,215
Bleached Sulphate	1,563	84,658	1,577	102,375	18,978	111,862
Unbleached Sulphate	6,644	526,684	14,275	635,722	36,408	622,353
Total Groundwood	20,508	190,041	18,568	227,778	20,720	218,422
Soda	------	------	------	------	100,976	10,327
Total—Miscellaneous, Damaged and Off-Quality	2,110	394	2,008	329	2,004	------

*Table prepared by Pacific Pulp & Paper Industry from United States Pulp Producers Association data on wood pulp production, shipments and stocks; and from import data supplied by the Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce. 1934 imports in this table have been changed to short tons for the purpose of comparison with American production figures.

[1] Soda Pulp included in 1937 figures only.

World Newsprint Production Up in 1937

Increase of 9% over 1936 World Production — U. S. Mills Produced 25,000 Tons or 2.7% More Than in 1936 But Supplied 22% of U. S. 1937 Consumption Compared With 24.7% in 1936

● The world production of newsprint in 1937 amounted to 8,971,000, tons topping the all-time high figure for 1936 of 8,215,000 tons by 9 per cent, according to Mr. R. S. Kellogg, secretary of the News Print Service Bureau. This is an increase of 43 per cent or 2,695,000 tons over the 6,276,000 tons produced during the depression year of 1932. Yearly figures for all countries, 1927-1937, are shown in the attached table compiled from data received direct by the News Print Service Bureau, information from foreign correspondents and reports to the Department of Commerce in Washington, D. C.

Canada supplied 41 per cent of the 8,971,000 tons of newsprint produced in the world last year, Great Britain 12 per cent, United States 11 per cent, Germany 6 per cent and Finland, Japan and France about 5 per cent each.

The following countries showed a new all-time high record in the production of newsprint during the year 1937: Canada, Great Britain, Finland, France, Japan, Newfoundland, Sweden and Norway. Slight changes were noted in the minor producing countries.

The 3,645,000 tons produced by Canada in 1937 exceeded by 14 per cent the 1936 production and 1,731,000 tons, or 90 per cent more than the low figure in 1932 of 1,914,000 tons. The Canadian ten-year average has been approximately 2,600,000 tons annually.

● Great Britain manufactured 1,033,000 tons of newsprint last year, 29,000 tons more than in 1936 when the production for this country for the first time reached the one million ton mark. The growth of newsprint production in Great Britain has been substantial showing a gain every year since 1930.

The output of 946,000 tons by the United States during the past year amounted to the same production as 1933, a gain of 25,000 tons or 2.6 per cent over 1936. This production however is substantially under the years preceeding 1933. The peak of the United States newsprint production was reached in 1926 when 1,684,000 tons were manufactured. There are some indications that United States newsprint is stabilizing at somewhat less than a million tons annually and that Great Britain is settling down to a little more than that amount.

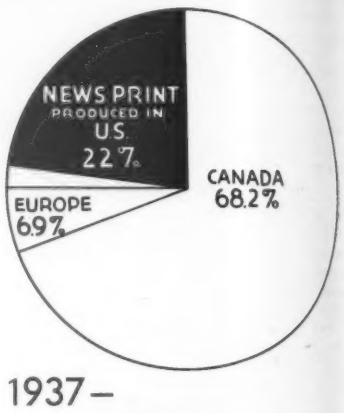
Germany manufactured 6 per cent of the world production of newsprint, retaining fourth place for another year. Germany's average for the past decade has been slightly over a half million tons, no substaintial change being reported in German production for many years.

As an important producer of newsprint paper Finland has rapidly come to the front. The 459,000 tons produced by this country in 1937 more than doubled the 1930 output and surpassed the 1936 production by 14 per cent.

France increased her output of newsprint last year, turning out 424,000 tons or 28 per cent more than in the previous year and twice the production of 1929. During the last decade France has shown an annual increase in her newsprint production, except for the slight drop in 1936.

Japan passed the 400,000 ton mark in 1937 by manufacturing 413,000 tons, a gain of 30,000 tons over the 1936 production and still more ahead of the preceding year.

Newfoundland turned out 353,000 tons of newsprint in 1937, 7½ per cent more than in 1936, a new high for that country. Sweden and Norway both showed



1937—

1936—

1925—

1915—

U. S. Newsprint Industry's Share Of Domestic Market Steadily Declining

As the consumption of newsprint in the United States increases the proportionate share of the American newsprint producers declines. This situation is vividly shown by the graphs at the right and graph on the opposite page.

Each circle represents the total U. S. newsprint consumption for that year with the percentage of consumption supplied by domestic production and by imports. Although U. S. newsprint production of 946,000 tons in 1937 was equal to 1933 production, and 25,000 tons greater than 1936 production, the American producers' share of the market declined 2.7 per cent because of increased consumption, which expanded from 3,658,000 tons in 1936 to 4,246,000 tons in 1937, an increase of 588,000 tons or 16 per cent.

Mr. R. S. Kellogg, Secretary of the Newsprint Service Bureau, states that: "There are some indications that United States newsprint is stabilizing at somewhat less than a million tons per day."

a slight increase in their newsprint production last year.

Since approximately 5 per cent of the 1937 output of newsprint went into stock instead of consumption it will necessarily have a different effect upon production in 1938, but if business conditions are favorable it will not be long before the world figure climbs to 9,000,000 tons.

Canadian Exports

● Canada exported newsprint during 1937 in the amount of 3,445,000 tons according to Canadian Government statistics, a gain of 452,000 tons or 15 per cent over the 2,993,000 tons exported in 1936.

Exports of newsprint from Canada to the United States amounted to 2,899,000 tons or 500,000 tons more than in 1936 or an increase of 21 per cent.

Canadian overseas shipments in 1937 were the largest on record with the exception of 1936. The 1937 total was 556,000 tons, decrease of 38,000 tons or 6 per cent below the record-making total of 594,000 tons attained in 1936.

Canadian newsprint was shipped to almost all parts of the world in 1937, the United Kingdom receiving the largest tonnage, with Australia second and Argentina third. Shipments to the United Kingdom were much above those in 1936, as were shipments from Canada to South Africa, Argentina, Mexico and Cuba. Shipments declined to Australia, New Zealand, Chile, Japan and China.

U. S. Exports

● Newsprint exports from the United States, although larger than in 1936, were but 17,000 tons in 1937 and of little importance in the world newsprint situation. Principal buyers of American newsprint in 1937 were Cuba, Central and South America, China and the Philippines.

U. S. Newsprint Imports

● The United States imported 3,317,000 tons in 1937 from all sources, an increase of 556,000 tons or 21 per cent over 1936 importantions.

From Canada the U. S. imported 88 per cent of all its newsprint imports in 1937. Three per cent came from Newfoundland and 9 per cent from Europe.

Imports from Europe in 1937, amounting to 294,000 tons, were the largest in history. Nearly 102,000 tons were imported from Sweden and almost 155,000 tons from Finland. Norway supplied 24,000 tons and Germany 13,000 tons. The imports from Sweden and Finland represented new highs but those from Germany were far below the 52,000 tons imported in 1923. The high in Norwegian imports was also in 1923 when 34,000 tons were imported. Imports from Finland have more than doubled since 1935.

U. S. Consumption

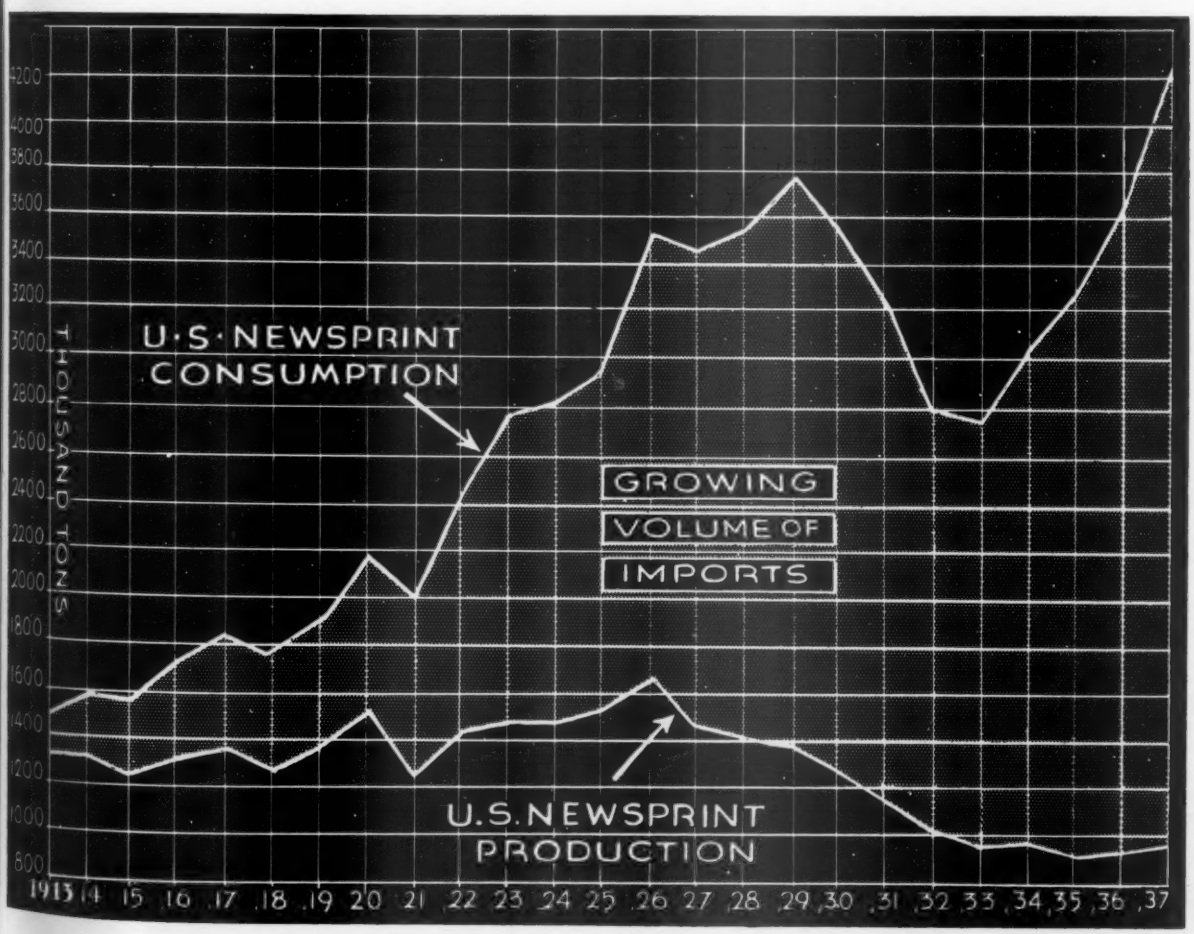
● In his report Mr. Kellogg states that there was a heavy accumulation of stocks of newsprint in the U. S. and that all imports were by no means consumed during 1937. This accumulation was due to a smaller consumption in the latter half of the year than expected and to the building up of stocks against a price increase in 1938.

However, the total use of newsprint in the United States in 1937 was around 3,830,000 tons. This was 180,000 tons or 5 per cent more than in 1936 and 50,000 tons more than in the previous peak year of 1929.

The per capita use of newsprint in the U. S. in 1937 was a little more than 59 pounds, while the per capita consumption in 1929 was slightly more than 62 pounds. The 59 pounds of 1937 was a substantial comeback from the 43 pounds used in 1933.

The most cheerful item to both newsprint manufacturers and newspaper publishers is the still growing volume of newspaper circulation, according to Mr. Kellogg. A compilation by Editor & Publisher showed the total circulation of English language daily and Sunday newspapers in the U. S. for the twelve months ending September 30, 1937, as 72,376,000 copies. This was a gain of 3 per cent over the previous twelve month period and a gain of 22 per cent over the low point of the depression. Newspaper circulation is now 9 per cent above the level reached in 1929-1030. Canadian English language newspapers are also growing with 19 per cent more circulation than in 1933 and 5 per cent more than in 1929.

● It is this large and sustained newspaper circulation which furnishes the substantial foundation for newsprint consumption despite disappointing advertising volume at the present time.



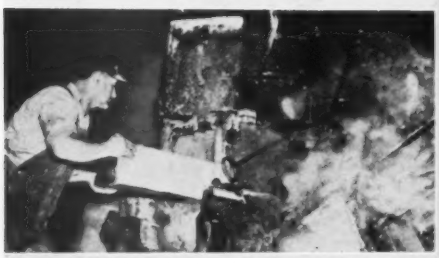
NEWSPRINT

FROM LOG POND TO PRINTING PRESS IN HALF A DAY

1. Paper in the raw. The Hawley Pulp and Paper Company log pond of hemlock and spruce at Oregon City.

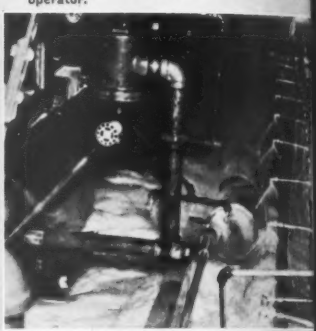
2. (Right) A shower bath on the way from the pond up the slip to the saws and the splitters. A. F. Heizer, log scaler, with the pole.

3. With wedge and power hammer, splitting the log from the saw into suitable sizes. Al Pfister is the operator.

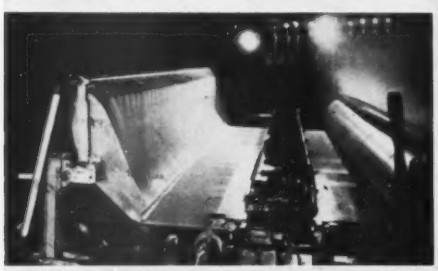


4. Feeding a 48-inch block to the 100-horsepower grinder that chews the stick into groundwood, or mechanical pulp. Carl Elliott is the grinderman-foreman here.

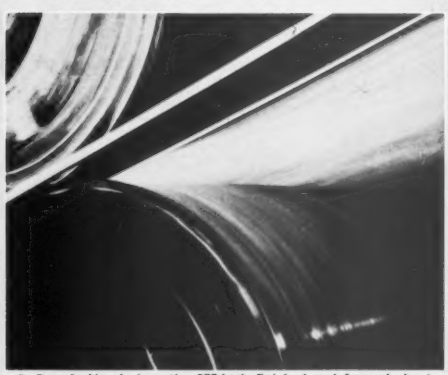
5. The beater foreman. A. Lange, officiates at the beater where blending of groundwood and sulphite paper stock occurs, and where chemicals and color entering into the making of paper may be added.



6. Head box at the "wet end" where pulp fibre is held in suspension before it is plunged out "on the wire." Fine spray keeps the foam down and prevents lumping of stock.



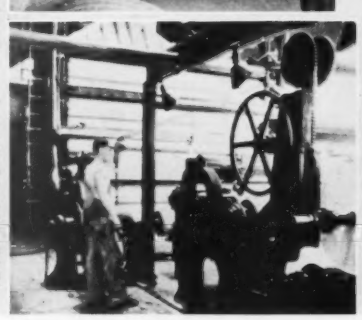
7. "On the wire." Here's where pulp becomes paper. Traveling along the 234-inch moving screen at 1275 feet per minute (this is the fastest machine on the coast) the web is formed as water is vacuumed and pressed out of the pulp and passes onto the wool felts and then through the dryers.



8. Speed. Here's how the 222-inch finished and formed sheet looks racing through the press rolls that take out water and help give paper its finish.

9. Paper Machine Tender E. C. Frost adjusting the draw between presses.

10. Backtender Ed Long glues a semi-finished roll as it comes from the steam drying and pressing rolls, before rewinding into into required sizes.



11. The "dry end," showing the winderman looking over the finished roll as it comes off the No. 4 machine which can turn out 175 tons of newsprint daily, operating 24 hours per day, using four 8-hour shifts.

12. (Left) The finished rolls are delivered to the Journal on specially built trucks

13. And eventually stream from high-speed newspaper presses—fulfilling their destiny as couriers of the news of the world.

WORLD PRODUCTION OF NEWSPRINT PAPER—1928 TO 1937*

(Short tons of 2,000 lbs.)

Countries—	1928 Tons	1929 Tons	1930 Tons	1931 Tons	1932 Tons	1933 Tons	1934 Tons	1935 Tons	1936 Tons	1937 Tons	10-Year Average
Canada	2,381,000	2,729,000	2,504,000	2,221,000	1,914,000	2,017,000	2,599,000	2,753,000	3,192,000	3,645,000	2,595,000
United States	1,418,000	1,392,000	1,282,000	1,157,000	1,009,000	946,000	957,000	912,000	921,000	946,000	1,094,000
Great Britain	646,000	637,000	608,000	719,000	790,000	830,000	940,000	970,000	1,004,000	1,033,000	818,000
Germany	600,000	623,000	590,000	540,000	450,000	412,000	446,000	464,000	525,000	521,000	517,000
Newfoundland	231,000	256,000	287,000	295,000	272,000	271,000	316,000	336,000	328,000	353,000	295,000
Sweden	234,000	275,000	240,000	265,000	257,000	266,000	272,000	298,000	282,000	303,000	269,000
Japan	267,000	286,000	285,000	258,000	272,000	304,000	344,000	368,000	384,000	413,000	318,000
France	136,000	210,000	240,000	243,000	275,000	335,000	353,000	358,000	331,000	424,000	291,000
Finland	214,000	217,000	223,000	241,000	254,000	285,000	316,000	329,000	402,000	459,000	294,000
Norway	198,000	189,000	202,000	104,000	200,000	167,000	155,000	182,000	200,000	212,000	181,000
Russia	7,000(?)	48,000(?)	90,000(?)	100,000(?)	125,000	135,000(?)	190,000	193,000	217,000	192,000	130,000(?)
Netherlands	76,000	77,000	84,000	79,000	85,000	87,000	92,000	92,000	91,000	97,000	86,000
Italy	45,000	52,000	69,000	69,000	74,000	72,000	68,000	76,000	69,000	66,000	66,000
Austria	57,000	62,000	64,000	62,000	53,000	50,000	50,000	50,000	57,000	62,000	57,000
Spain	26,000	30,000	32,000	62,000	65,000	65,000	42,000	42,000	18,000	18,000(?)	40,000
Switzerland	40,000	48,000	47,000	49,000	45,000	45,000	39,000	45,000	44,000	50,000	45,000
Belgium	50,000	57,000	50,000	44,000	40,000	40,000	51,000	48,000	53,000	57,000	49,000
Czechoslovakia	45,000	47,000	44,000	42,000	40,000	38,000	37,000	41,000	46,000	54,000	43,000
Poland	20,000	23,000	27,000	27,000	23,000	23,000	32,000	34,000	32,000	44,000	29,000
Estonia	20,000	27,000	29,000	17,000	6,000	6,000	6,000	4,000	7,000	7,000	13,000
Mexico	17,000	19,000	14,000	15,000	13,000	16,000	20,000	20,000	.....	.....	13,000
Denmark	16,000	11,000	10,000	10,000	9,000	7,000	6,000	1,000	.....	.....	7,000
Latvia	3,000	4,000	4,000	3,000	5,000	5,000	5,000	6,000	7,000	8,000	5,000
Chile	.....	.....	.....	.....	.....	.....	6,000	6,000	7,000	2,000	2,000
Hungary	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,000	.....
Bulgaria	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,000	.....
Total	6,747,000	7,319,000	7,025,000	6,622,000	6,276,000	6,421,000	7,342,000	7,628,000	8,217,000	8,971,000	7,257,000

(?) Figures incomplete.
* Compiled by the News Print Service Bureau.

NEWSPRINT IN CANADA, 1913-1937

Source—Newsprint Service Bureau

(Tons)

Year	Production	Exports	Balance at Home
1913	350,000	*	*
1914	415,000	*	*
1915	489,000	*	*
1916	608,000	*	*
1917	686,000	*	*
1918	735,000	*	*
1919	803,000	708,000	95,000
1920	876,000	762,000	114,000
1921	808,000	709,000	99,000
1922	1,082,000	960,000	122,000
1923	1,266,000	1,138,000	128,000
1924	1,353,000	1,219,000	134,000
1925	1,522,000	1,402,000	120,000
1926	1,882,000	1,732,000	150,000
1927	2,087,000	1,882,000	205,000
1928	2,381,000	2,207,000	174,000
1929	2,729,000	2,511,000	218,000
1930	2,504,000	2,331,000	173,000
1931	2,221,000	2,008,000	213,000
1932	1,914,000	1,777,000	137,000
1933	2,017,000	1,838,106	179,000
1934	2,599,000	2,400,000	199,000
1935	2,753,000	2,575,000	178,000
1936	3,192,000	2,993,091	198,909
1937	3,645,000	3,455,000	190,000

*No data.

NEWSPRINT IN THE UNITED STATES 1913-1937

Compiled from News Print Service Bureau Data

(Tons)

Year	Production	Imports	Exports	Balance at Home
1913	1,305,000	220,000	43,000	1,482,000
1914	1,313,000	315,000	61,000	1,567,000
1915	1,239,000	368,000	55,000	1,552,000
1916	1,315,000	468,000	76,000	1,707,000
1917	1,359,000	559,000	94,000	1,824,000
1918	1,260,000	596,000	97,000	1,759,000
1919	1,375,000	628,000	111,000	1,895,000
1920	1,512,000	730,000	49,000	2,193,000
1921	1,225,000	792,000	17,000	2,000,000
1922	1,448,000	1,029,000	26,000	2,451,000
1923	1,485,000	1,309,000	16,000	2,778,000
1924	1,481,000	1,357,000	17,000	2,821,000
1925	1,530,000	1,448,000	23,000	2,955,000
1926	1,684,000	1,851,000	19,000	3,517,000
1927	1,486,000	1,984,000	12,000	3,461,000
1928	1,418,000	2,157,000	11,000	3,564,000
1929	1,392,000	2,421,000	19,000	3,796,000
1930	1,282,000	2,280,000	10,000	3,551,000
1931	1,157,000	2,067,000	10,000	3,212,000
1932	1,009,000	1,791,000	8,000	2,792,000
1933	946,000	1,793,000	11,000	2,728,000
1934	957,000	2,210,000	23,000	3,144,000
1935	912,000	2,383,000	23,000	3,272,000
1936	921,000	2,752,000	15,000	3,658,000
1937	946,000	3,317,000	17,000	4,246,000

IMPORTS OF EUROPEAN NEWSPRINT INTO THE U. S.*

January 1, 1920—December 31, 1937 (Tons of 2,000 lbs.)

	Sweden	Germany	Finland	Norway	Other	Total
1920	18,875	21,066	3,244	5,916	1,337	50,438
1921	48,932	38,938	22,661	20,193	4,613	135,337
1922	51,812	32,838	26,205	17,292	4,741	132,888
1923	64,570	52,290	41,782	33,829	7,798	200,269
1924	60,827	38,840	35,639	17,259	3,238	155,803
1925	65,518	25,862	21,683	17,030	2,421	132,514
1926	46,020	12,884	34,292	6,176	554	99,926
1927	66,920	7,096	29,330	16,796	1,919	122,061
1928	55,718	9,170	40,237	10,864	418	116,407
1929	50,717	9,741	32,293	3,498	124	96,373
1930	69,268	13,788	41,913	9,326	.....	134,295
1931	66,688	21,910	47,992	14,444	35	151,069
1932	61,079	14,323	46,633	22,692	194	144,921
1933	68,062	12,058	56,577	16,591	15	153,303
1934	68,090	5,740	56,813	16,417	....	147,060
1935	93,428	7,156	73,928	22,571	2	197,085
1936	87,488	9,772	122,972	22,110	10	242,352
1937	102,000	13,000	155,000	24,000	....	294,000
Total 18 years	1,146,012	346,472	889,194	297,004	27,419	2,706,101
Percent	42.3	12.9	32.8	11.0	1.0	100.0

* Source—Newsprint Service Bureau.

NEWSPRINT—

The HAWLEY PULP & PAPER COMPANY'S mill at Oregon City, Oregon, was the locale for the photographs on the opposite page which were taken by Les Ordeman, Oregon Journal photographer » » » The layout with captions is reproduced from the rotogravure section through the courtesy of the Oregon Journal of Portland.

PULP AND PAPER CAPACITIES OF PACIFIC COAST MILLS

Showing principal grades manufactured and capacities in tons per 24-hour day

Name of Mill	Location	—PULP—						—PAPER—						REMARKS
		Mechanical	Unbleached Sulphite	Bleached Sulphite	Unbleached Sulphate	Bleached Sulphate	Soda	News	Sulphites	Sulphates	Book	Board	Others	
BRITISH COLUMBIA														
British Columbia Pulp & Paper Co.	Woodfibre			150										Principally Rayon grades.
British Columbia Pulp & Paper Co.	Port Alice			150										News, Kraft and Sulphite Wrapping, fruit wrap, tissues, etc.
Pacific Mills, Ltd.	Ocean Falls	200	75		105			230	20	85				Newsprint and unbleached sulphite pulp.
Powell River Co., Ltd.	Powell River	475	125					600						Roofing and boards.
Sidney Roofing & Paper Co.	Victoria	10										25		Kraft and sulphite wrapping; second sheets; fruit wraps; tissues; specialties.
Vancouver Kraft Mills, Ltd.	Port Mellon				85									
Westminster Paper Mills, Ltd.	New Westminster								25					
WASHINGTON														
Berkheimer Mfg. Co., J. E.	Tacoma												8	Rag roofing, etc.
Columbia River Paper Mills	Vancouver	30		110					80					Unbleached and bleached sulphite and groundwood papers; wrapping; newsprint; fruit wraps; tissues.
Crown Willamette Paper Co. (Division of Crown Zellerbach Corp.)	Camas	90	250	100	150	‡			225	150				Sulphite, sulphate and groundwood specialties, tissue, M. F. book, etc.
Everett Pulp & Paper Co.	Everett						60				65			Book, railroad, writing, school supplies.
Everett Pulp & Paper Co.	West Tacoma										35			Products same as Everett mill.
Fibreboard Products, Inc.	Port Angeles	30	72									100		Box and container board, pulp board. White patent coated board, bottle cap bd.
Fibreboard Products, Inc.	Sumner											75		Box and container board, coated board.
Grays Harbor Corporation	Hoquiam								50					Sulphite bonds, writing, specialties.
Rayonier Inc., Grays Harbor Division	Hoquiam			270										Rayon and paper grades.
Inland Empire Paper Co.	Millwood	100	33					65	50					News, wrapping, poster, sulphite specialties, etc.
Longview Fibre Co.	Longview	90			200	‡				125		200		Board, wrapping, bags, container, boxes.
National Paper Products Co. (Division of Crown Zellerbach Corp.)	Port Townsend				250					235				Kraft liner board, wrapping, bag paper.
Rayonier Inc., Port Angeles Division	Port Angeles			250										Rayon and paper grades.
Pacific Coast Paper Mills	Bellingham								15					Toilet Tissues, Towels, etc.
Pacific Straw Paper & Board Co.	Longview	30										52		All kinds of boards.
Rayonier Inc., Shelton Division	Shelton			340										All Rayon grade, includes 140 tons produced by Tacoma Division.
Soundview Pulp Co.	Everett			470										
Puget Sound Pulp & Timber Co., Fidalgo Division	Anacortes		80											
Puget Sound Pulp & Timber Co., San Juan Division	Bellingham		235											Entire output bleached and dried at Shelton.
Rayonier Inc., Tacoma Division	Tacoma		140											
St. Regis Kraft Co.	Tacoma					175								Mill idle.
Tumwater Paper Mills Co.	Tumwater	(20)							(50)					Newsprint.
Washington Pulp & Paper Corporation (Division of Crown Zellerbach Corp.)	Port Angeles	300	60					340						
Weyerhaeuser Timber Co.	Longview			210										
Weyerhaeuser Timber Co.	Everett		230											

Wrapping, cartridge, powder, printed

Weyerhaeuser Timber Co.	Longview			210										
Weyerhaeuser Timber Co.	Everett		230											
OREGON														
Crown Willamette Paper Co. (Division of Crown Zellerbach Corp.)	Lebanon		37						40					Wrapping, cartridge, powder, printed wrapping and semi-parchmentized wrappings.
Crown Willamette Paper Co. (Division of Crown Zellerbach Corp.)	Oregon City	60												
Crown Willamette Paper Co. (Division of Crown Zellerbach Corp.)	West Linn	440	110					300	25				45	News, Wrapping, Poster, Sulphite specialties.
Fir-Tex Insulating Board Co.	St. Helens												*	Wood fibre insulating board. Daily capacity 250,000 sq. ft.
Hawley Pulp & Paper Co.	Oregon City	170	105					150	90					News, Sulphite Wrapping, Lightweight Papers, Tissue, Cover, etc.
Oregon Pulp & Paper Co.	Salem			130					120					Sulphite Bonds, Glassine, Greaseproof.
St. Helens Pulp & Paper Co.	St. Helens				125	‡				135				Kraft wrapping, bag, fruit wraps, towels,
Coos Bay Pulp Corporation	Empire		60											
Spaulding Pulp & Paper Co.	Newberg		80											
CALIFORNIA														
California Fruit Wrapping Mills	Pomona								35					Fruit wraps, wrapping, tissues, napkins,
California-Oregon Paper Mills	Los Angeles								40	40				Wrapping, fruit wrap, vegetable parchment, tissues.
Certain-teed Products Corp.	Richmond												38	Roofing, felts, mulching and insulating papers.
Crown Willamette Paper Co.	Floriston													Dismantled.
Fibreboard Products	Los Angeles (Vernon Div.)											120		Box board, container, patent coated board, bristol, bottle cap, etc.
Fibreboard Products	Stockton											250		Boxes, cartons, cardboard specialties.
Fibreboard Products	Los Angeles (Sunset Div.)											8		Binder board and miscellaneous board.
Fibreboard Products	Antioch											200		Container board, tag, white patent coated, folding and set-up corrugated straw.
Lloyd A. Fry Roofing Co.	Compton												15	Asphalt Roofing, Roofing Felts.
Johns-Manville Corporation	Pittsburg												30	Asbestos Paper.
Los Angeles Paper Manufacturing Co.	Los Angeles												33	Roofing, car lining, industrial flooring.
Paraffine Cos., Inc.	Emeryville												100	Roofing and felts, floor coverings.
Pioneer Division, Flintkote Company	Los Angeles											90	70	Roofing felts and boards, patent coated board, corrugated board.
U. S. Gypsum Co.	Los Angeles											25	25	News lined chip board and roofing felts.
COLORADO														
Central Fibre Products Co. Successors to Colorado Pulp & Paper Co.	Denver	15										50		Box, liner, chip boards, wall boards, etc.
HAWAII														
Olaa Sugar Company	Olaa												28	Mulch Paper (Mill Idle).
Hawaiian Cane Products Co.	Hilo													Insulating board from bagasse. (300,000 sq. ft. ½ in. thick per day).
Total daily capacities		2040	1692	2180	915	175	60	1685	815	770	100	1195	392	

Total Pulp Capacity—All Grades 7,062

Total Paper Capacity—All Grades 4,957

*Totals do not include 250,000 sq. ft. of insulating board.
Total Pacific Canadian Capacity—Pulp, 1,370 tons; Paper, 985 tons.
Total Pacific United States Capacity—Pulp, 5,692 tons; Paper, 3,972 tons.
[1]Tacoma Division production not included in unbleached sulphite total.
‡Production of Bleached and Semi-Bleached Sulphate is variable.

U. S. Imports of Pulp and Paper Set New High Records in 1937

Value Increased in Greater Ratio Than Tonnage

THE year 1937 witnessed the largest imports of wood pulp, paper and paper products on record.

Imports of wood pulp in 1937 increased 5.1 per cent in tonnage to 2,394,539 tons and 18.5 per cent in value to $98,298,022 to set new records for the third consecutive year. The increases would have been much larger but for the decline in the last quarter of the year. As the 1936 imports were 17.8 per cent larger in tonnage than those of 1935 and 17.1 per cent greater in value, the 1937 imports were 23.8 per cent larger in tonnage and 39 per cent greater in value than the 1935 imports.

The 1937 wood pulp imports exceeded the 1929 imports by 395,034 tons or by 19.7 per cent. In value the 1937 imports were valued $9,283,217 higher or by 10.4 per cent. The previous high value record was 1926 with $91,487,071.

Contrasted with 1932 last year's total wood pulp imports represented a rise of 912,806 tons or 61.5 per cent in quantity and $51,376,649, or 109.9 per cent in value. Within five years United States wood pulp imports have risen almost two-thirds in tonnage and have more than doubled in value. Domestic production, although expanded, has not made any appreciable reduction in the ratio between itself and imported pulp on the American market.

For the second time pulp imports passed the two million tons mark.

Chemical Pulp Imports

● Imports of chemical wood pulp in 1937 totaled 2,176,343 short tons, valued at $93,955,854, showing an increase of 126,292 tons or 6.1 per cent in quantity and $15,116,078, or 19.1 per cent in value, over the 2,050,051 tons valued at $78,839,776 in 1936. The 1936 imports of chemical pulp constituted gains of 17.5 per cent in volume and 16.8 per cent in value over the 1,733,602 tons valued at $67,483,566 imported in 1935.

Chemical wood pulp imports in 1937 reached a value of over $90,000,000 for the first time, exceeding the previous high value in 1926 of $83,208,851 by $10,747,003. Over a period of fifteen years the annual value of chemical wood pulp has exceeded $80,000,000 in three different years, and surpassed $70,000,000 in seven of the fifteen years. Although 1937 was but the second year that imports of chemical pulp have been more than two million tons, it was the eighth year during which they have exceeded a million and a half tons. This occurred in the years 1928, 1929, 1930, 1933, 1934, 1935, 1936 and 1937.

Unbleached Sulphite Shows Largest Gain

● The largest increase in 1937 imports was shown by unbleached sulphite with a gain of 132,894 short tons or 16.9 per cent over the 1936 imports. Thus the imports of unbleached sulphite showed a larger increase than the total wood pulp import gain of 116,710.

Imports of unbleached sulphite in 1937 amounted to 919,614 tons of a value of $34,663,053.

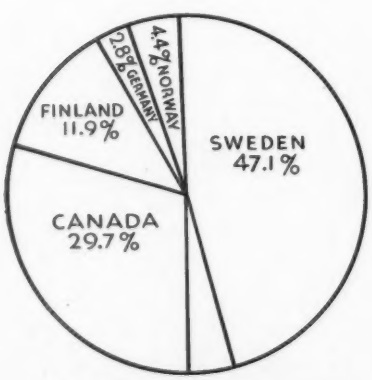
Bleached Sulphite Even

● Bleached sulphite imports of 511,961 short tons valued at $29,443,254 were 207 tons under the 1936 imports of 512,168 tons valued at $25,824,769. These 1937 bleached imports were still higher than any year but 1936. The 1936 imports were 82,744 tons or 19.2 per cent larger in tonnage and $3,890,615, or 17.7 per cent in value over the 429,424 tons valued at $21,934,154 imported in 1935.

Although the 1937 bleached sulphite imports fell slightly under those of 1936 in tonnage, they exceeded the 1936 imports in value by $3,618,485 or by 10 per cent.

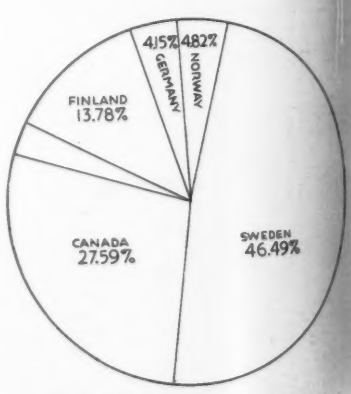
Unbleached Sulphate Down

● Unbleached sulphate imports also dropped but more decidedly with a decline of 13,369 tons, or

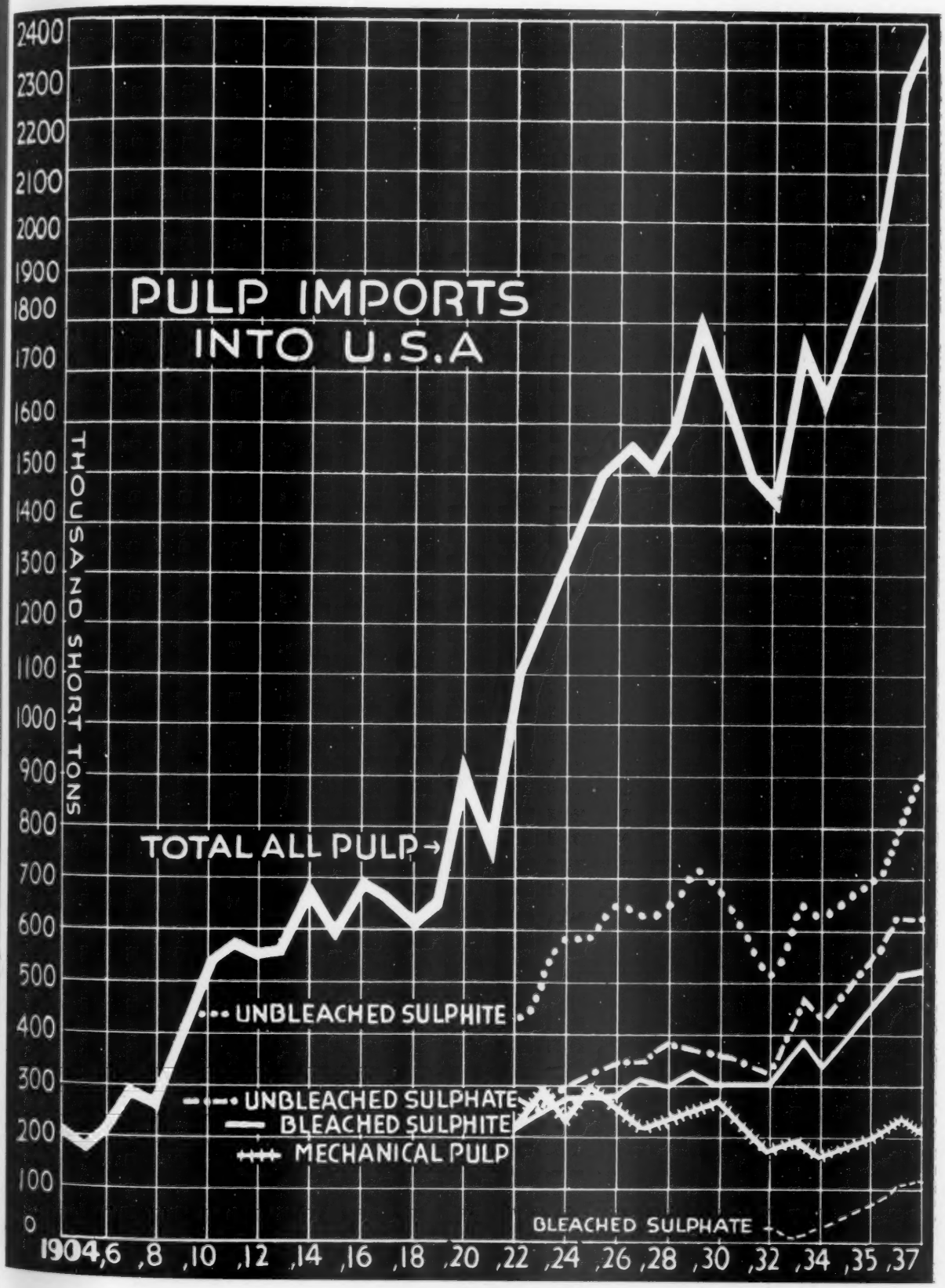


96% of 1937 U. S. Pulp Imports From Five Countries

96% of 1936 U. S. Pulp Imports From Five Countries



97% of 1935 U. S. Pulp Imports From Five Countries


PULP IMPORTS
INTO U.S.A
THOUSAND SHORT TONS
2400
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
TOTAL ALL PULP
UNBLEACHED SULPHITE
UNBLEACHED SULPHATE
BLEACHED SULPHITE
MECHANICAL PULP
BLEACHED SULPHATE
1904,6 ,8 ,10 ,12 ,14 ,16 ,18 ,20 ,22 ,24 ,26 ,28 ,30 ,32 ,34 ,35 ,37

UNITED STATES

Wood Pulp Imports by Grades and Countries of Origin—1937
Short Tons

Grade	Countries of Origin												Total by Grades	
	Canada		Finland		Germany		Norway		Sweden		Others			
	Tons	Value	Tons	Value	Tons	Value	Tons	Value	Tons	Value	Tons	Value	Tons	Value
Mechanical Wood Pulp														
Unbleached	172,825	$3,324,112	15,374	$334,117	———	———	769	$20,597	14,529	$344,413	———	———	203,497	$4,023,239
Bleached	———	———	2,148	44,842	———	———	318	8,413	12,459	265,674	———	———	14,925	318,929
Total	172,825	$3,324,122	17,522	$378,959	———	———	1,087	$29,010	26,988	$610,087	———	———	218,422	$4,342,168
Sulphite														
Unbleached	128,469	$5,330,953	123,112	$4,516,734	32,740	$1,105,187	28,479	$1,312,882	539,488	$19,974,146	67,326	$2,423,151	919,614	$34,663,053
Bleached	286,504	17,733,328	47,433	2,410,792	35,996	1,683,094	55,614	3,035,224	62,100	3,222,167	24,314	1,358,649	511,961	29,443,254
Total	414,973	$23,064,281	170,545	$6,927,526	68,736	$2,788,281	84,093	$4,348,106	601,588	$23,196,313	91,640	$3,781,800	1,431,575	$64,106,307
Sulphate														
Unbleached	58,841	$2,418,464	88,727	$3,194,752	324	$15,989	17,798	$720,343	454,049	$15,856,358	2,614	$64,070	622,353	$22,269,976
Bleached	55,212	3,689,768	9,200	55,306	———	———	———	———	47,450	2,769,376	———	———	111,862	7,014,450
Total	114,053	$6,108,232	97,927	$3,750,058	324	$15,989	17,798	$720,343	501,499	$18,625,734	2,614	$64,070	734,215	$29,284,426
Soda	10,321	$535,898	———	———	———	———	———	———	———	———	6	$314	10,327	$536,212
Total	712,172	$33,032,523	285,994	$11,056,543	69,060	$2,804,270	102,978	$5,097,459	1,130,075	$42,432,134	94,260	$3,846,284	2,394,539	$98,269,213

Source: Import Statistics—U. S. Department of Commerce.

622,353 tons against 635,722 tons in 1936. This was a reduction of 2.1 per cent in tonnage. Imports in 1936 had shown a rise of 109,038 tons or 20.7 per cent over 1935 imports. On the other hand the value of the 1937 unbleached sulphate imports was $2,497,988 or 12.6 per cent larger than the 1936 imports which were 207 tons larger. The decline in unbleached sulphate imports was largely due to development of new sulphate production in the South.

The average declared value of unbleached kraft imports in 1937 was $35.78 as compared with $31.10 in 1936, $30.17 in 1935 and $28.31 in 1934.

Bleached Sulphate Up 9%

● Imports of bleached sulphate pulp last year amounted to 111,862 short tons, 9,487 tons or 9.2 per cent larger than the 102,375 tons in 1936. The 1936 imports were 17,717 tons or 20.9 per cent higher than those in 1935.

The 1937 value of $7,014,450 was $1,170,419 or 20 per cent greater than the $5,844,031 value of the 1936 bleached sulphate imports. This 1937 value was $1,820,661 greater than the $5,193,789 value of the 1935 imports. The average declared value of the bleached sulphate pulp imported into the United States during 1937 was $62.70 as compared with $57.08 in 1936 and $61.35 in 1935.

Soda Imports Down

● Imports of soda pulp dropped from 12,737 tons valued at $565,572 tons in 1936 to 10,327 tons valued at $536,212 tons in 1937.

Groundwood Imports Decline

● The groundwood pulp imports last year amounted to 218,422 short tons of a value of $4,342,168, as compared with 227,778 tons valued at $4,051,224 in 1936. This was a decline of 4.1 per cent in quantity and 7.1 per cent in value.

Imports by Countries

● Nearly half of the wood pulp imported by the United States in 1937 came from Sweden, that country retaining the position held for many years, that of being the largest supplier of wood pulp to American paper mill buyers. Of the 2,394,539 tons imported last year Sweden furnished 1,130,075 tons. Of the total value of $98,269,213, Swedish pulp accounted for $42,432,134.

Sweden supplied 47.1 per cent compared with 44.5 per cent in

1936. Canada shipped 712,172 tons to the United States with a value of $33,032,523, or 29.7 per cent, slightly more than in 1936.

Finland shipped 285,798 short tons or 11.9 per cent of all U. S. imports whereas Finland shipped 310,919 tons or 13.6 per cent in 1936.

Norway supplied 106,946 tons, 4.4 per cent, against 125,246 tons or 5.4 per cent in 1936. Imports from Germany totaled 69,060 tons or 2.8 per cent against 74,663 tons or 3.2 per cent in 1936. Germany has slipped as a source of wood pulp from 5.08 per cent in 1934 to 2.8 per cent in 1937.

From Sweden

● The 1,130,075 short tons of wood pulp imported from Sweden in 1937 were valued at $42,432,134. This was a rise in tonnage of 115,266 tons or 11.4 per cent over the 1,014,809 tons, valued at $34,199,656 imported from Sweden in 1936. The increase in value was $8,232,478 or 24 per cent.

Chemical pulp imports from Sweden in 1937 were 1,103,087 tons of a value of $41,233,109, compared with 992,435 tons valued at $33,820,806 in 1936 and 876,473 tons valued at $29,829,144 in 1935.

Sweden supplied 539,488 tons of unbleached sulphite to the United States in 1937 valued at $19,974,146 contrasted with 425,753 tons valued at $14,492,654 in 1936. Bleached sulphite pulp from Sweden in 1937 amounted to 62,100 tons of a value of $3,222,167, compared with 67,309 tons in 1936 valued at $3,011,668.

Bleached kraft imports from Sweden last year rose to 47,450 tons valued at $2,769,376 compared with 41,461 tons of a value of $2,310,645 in 1936. Unbleached sulphate declined in volume in 1937 with 454,049 tons valued at $15,856,358. In 1936 this grade amounted to 457,912 tons valued at $14,005,839.

From Sweden we imported 26,988 tons of groundwood pulp valued at $610,087 last year, while 1936 imports amounted to 22,374 tons valued at $378,850.

Canada's Share

● Total pulp imports last year from Canada reached 712,172 tons valued at $33,032,523. This was an increase in tonnage of 41,210 tons and in value of $5,932,911, or roughly 6 per cent in volume. Chemical pulp imports from the Dominion reached 539,251 tons valued at $29,706,468 against 500,618 tons valued at $24,169,147 in 1936. Groundwood imports reached 172,825 tons valued at $3,324,112,

U. S. WOOD PULP IMPORTS

Quantity and Value
1922-1937

	Bleached Sulphite		Unbleached Sulphite		Unbleached Sulphate		Bleached Sulphate	
	Long Tons	Value	Long Tons	Value	Long Tons	Value	Long Tons	Value
1937	465,372	$29,443,254	835,929	$34,663,053	565,718	$22,269,976	101,682	$7,014,450
1936	465,607	25,824,769	715,128	26,778,644	568,827	19,771,988	93,059	5,844,031
1935	383,475	21,934,054	618,872	24,026,340	470,329	15,893,593	75,600	5,193,789
1934	355,484	19,415,304	603,117	21,791,584	429,853	13,733,776	48,275	3,334,713
1933	400,633	19,138,468	643,003	19,946,124	461,890	12,568,367	36,622	2,361,882
1932	311,046	14,727,214	508,088	17,047,669	310,659	9,818,674	23,366	1,975,720
1931	319,518	18,887,719	540,478	23,033,069	344,612	12,035,030	29,683	2,267,090
1930	322,886	22,721,929	665,049	33,193,598	357,551	16,452,381	19,533	1,468,599
1929	334,235	25,338,603	701,456	35,328,982	384,005	20,518,676	15,364	1,139,820
1928	307,771	23,268,421	640,660	32,587,134	381,256	21,170,948	14,590	894,587
1927	311,130	24,224,626	613,856	23,262,845	341,162	20,684,298	10,789	708,712
1926	294,818	23,677,929	628,923	37,032,470	334,803	21,193,459	16,147	1,048,662
1925	286,976	22,527,879	579,284	31,542,079	306,073	18,257,446	17,419	989,933
1924	272,370	21,006,429	562,020	30,092,530	277,994	15,904,350	27,613	1,549,629
1923	250,580	22,245,868	461,853	26,548,431	233,696	15,228,747	15,422	1,080,961
1922	213,093	17,996,401	422,700	22,297,283	275,504	16,085,121	19,440	1,169,570

	Total, All Chemical Pulp		Mechanical Pulp		Total, All Grades Wood Pulp	
	Long Tons	Value	Long Tons	Value	Long Tons	Value
1937	1,968,701	$93,390,733	198,545	$4,342,168	2,167,246	$97,732,901
1936	1,842,621	78,839,776	207,050	4,051,224	2,070,547	82,891,000
1935	1,557,026	67,403,602	169,707	3,277,385	1,726,732	70,680,987
1934	1,443,351	58,605,219	169,084	3,245,050	1,612,615	61,850,269
1933	1,545,994	54,184,091	187,750	3,214,919	1,733,744	57,399,010
1932	1,154,907	43,652,916	168,272	3,268,457	1,323,179	46,921,373
1931	1,237,600	56,409,638	188,086	4,498,022	1,425,686	60,907,660
1930	1,369,327	74,140,504	267,193	7,146,290	1,636,520	81,286,794
1929	1,441,110	82,840,220	244,162	6,245,776	1,785,272	89,085,996
1928	1,351,005	78,476,280	222,499	5,443,495	1,573,504	83,919,775
1927	1,280,285	80,124,449	219,285	5,961,821	1,499,570	86,086,270
1926	1,278,548	83,208,851	271,213	8,278,220	1,549,761	91,487,071
1925	1,191,875	73,469,063	295,618	8,517,116	1,487,493	81,986,179
1924	1,142,123	68,678,210	219,571	7,190,129	1,361,694	75,868,339
1923	967,869	65,495,800	267,527	9,280,863	1,235,396	74,776,663
1922	931,992	57,600,844	192,688	5,706,529	1,124,680	63,307,373

UNITED STATES
Imports of Bleached Sulphite From 1920 to 1937
By Countries of Origin
(Long Tons of 2,240 Pounds)

Countries—	Canada	Sweden	Germany	Norway	Finland	All Others	Total
1920	86,055	6,788	200	13,435	5,329	2,663	114,470
1921	59,198	5,770	1,335	8,180	7,591	2,931	85,005
1922	122,347	39,340	3,152	39,153	5,393	3,708	213,093
1923	132,138	41,958	12,655	46,849	12,063	4,917	250,580
1924	135,943	64,221	17,054	35,279	6,960	12,912	272,369
1925	137,598	71,577	16,662	48,111	4,130	8,898	286,976
1926	152,764	58,623	25,944	45,416	2,739	9,332	294,818
1927	171,280	46,369	25,341	49,928	4,595	13,617	311,138
1928	176,807	36,237	39,592	40,212	1,500	13,578	307,926
1929	187,469	47,199	45,471	39,312	7,306	7,478	334,235
1930	181,195	43,916	46,101	36,758	7,335	7,358	322,693
1931	185,037	49,063	47,155	18,011	8,922	7,923	316,111
1932	150,589	46,735	38,185	46,971	11,708	24,340	318,528
1933	194,754	65,264	32,564	56,303	22,420	29,328	400,633
1934	179,320	59,253	34,661	46,878	20,054	15,318	355,484
1935-1937 IMPORTS IN TONS OF 2,000 LBS.							
1935	225,773	69,237	30,231	52,407	29,550	22,225	429,423
1936	281,062	67,309	34,792	70,950	31,131	26,924	512,168
1937	286,504	62,100	35,996	55,614	47,433	24,214	511,961

Source—Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce.

UNITED STATES
Imports of Unbleached Sulphite—1920 to 1937
(Long Tons—2,240 Pounds)

	Sweden	Canada	Finland	Germany	Norway	All Others	Total
1920	73,957	207,667	13,502	7,193	3,627	2,062	308,008
1921	73,070	88,112	24,696	14,308	3,137	4,770	208,093
1922	193,218	146,690	27,642	16,968	29,134	4,048	422,700
1923	159,065	167,725	58,602	42,851	21,222	12,388	461,853
1924	226,978	192,308	48,007	54,944	26,079	13,554	561,920
1925	193,034	253,670	48,996	42,362	20,639	20,083	579,284
1926	244,925	226,153	61,804	54,305	18,613	23,123	628,923
1927	299,875	179,630	70,106	25,487	17,747	21,011	613,856
1928	297,130	179,751	92,778	23,933	23,456	23,607	640,660
1929	350,152	190,565	109,121	16,822	18,325	16,471	701,456
1930	331,968	180,417	99,881	19,049	20,210	14,152	665,075
1931	300,682	88,604	97,467	22,212	10,195	16,850	536,010
1932	270,894	56,335	95,579	42,330	31,402	19,667	516,207
1933	346,684	76,537	116,019	43,895	26,597	33,271	643,003
1934	314,984	80,867	112,562	47,319	22,529	24,856	603,117
1935-1937 IMPORTS IN TONS OF 2,000 LBS.							
1935	377,320	67,404	146,166	50,024	16,539	35,573	693,026
1936	425,753	89,359	157,324	39,871	25,391	49,022	786,720
1937	539,488	128,469	123,112	32,740	28,479	67,326	919,614

Source: Department of Commerce, Bureau of Foreign and Domestic Commerce.

UNITED STATES
Imports of Bleached Sulphate Pulp—By Countries of Origin—1930-1937
(Long Tons of 2,240 Lbs.)

	Canada	Finland	Germany	Norway	Sweden	Others	Total
1930	12,505	2,445	256	----	----	387	22,108
1931	22,940	2,263	160	28	7,851	----	33,242
1932	19,872	1,522	----	324	1,648	----	23,366
1933	24,778	2,249	----	242	9,159	----	36,428
1934	30,804	2,740	----	452	14,279	----	48,275
1935-1937 IMPORTS IN TONS OF 2,000 LBS.							
1935	51,199	4,113	——	28	29,262	56	84,658
1936	55,244	5,440	----	230	41,461	----	102,375
1937	55,212	9,200	----	----	47,450	----	111,862

Source—Department of Commerce, Bureau of Foreign and Domestic Commerce.

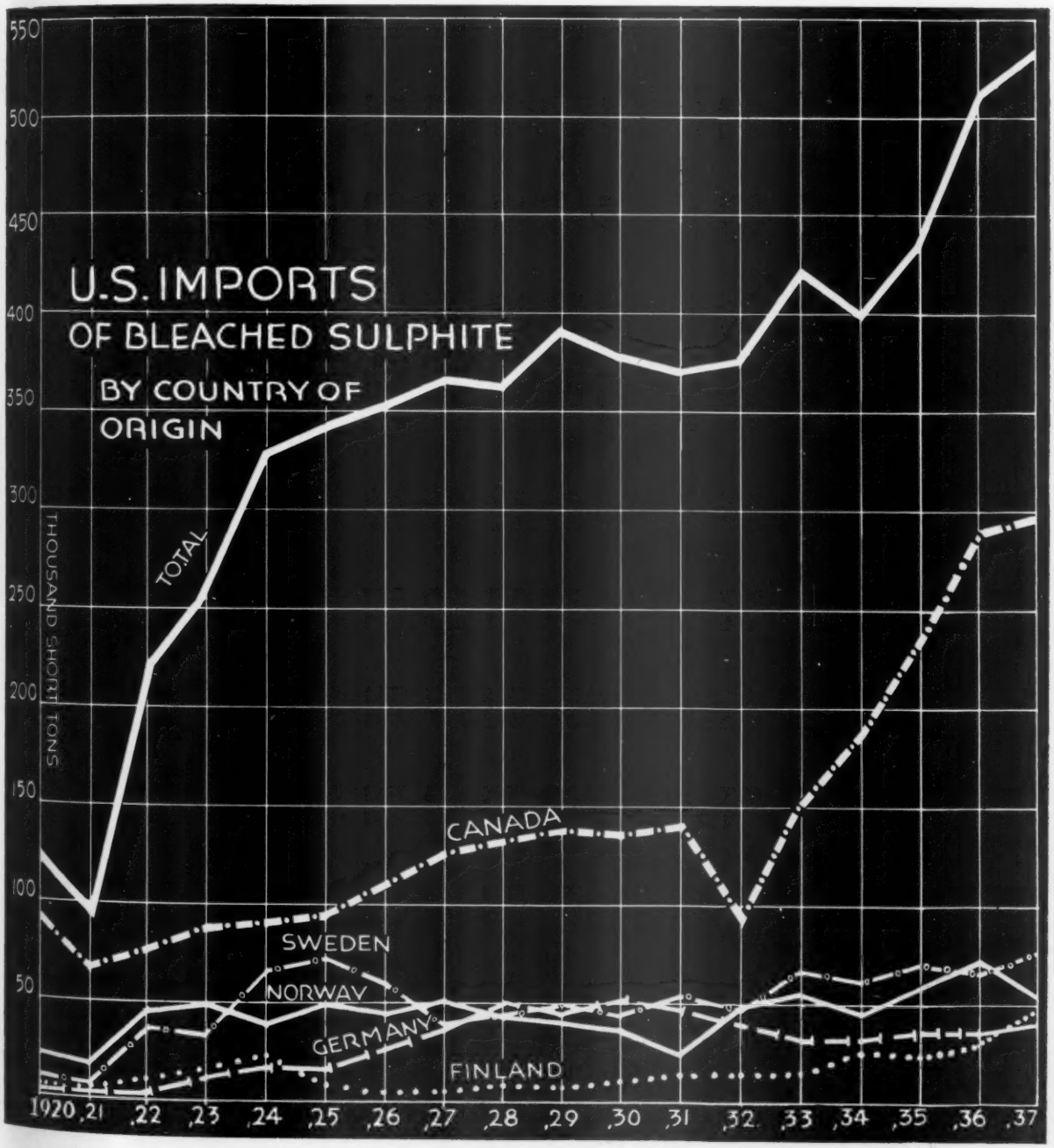
compared with 170,344 tons worth $2,930,465 in 1936.

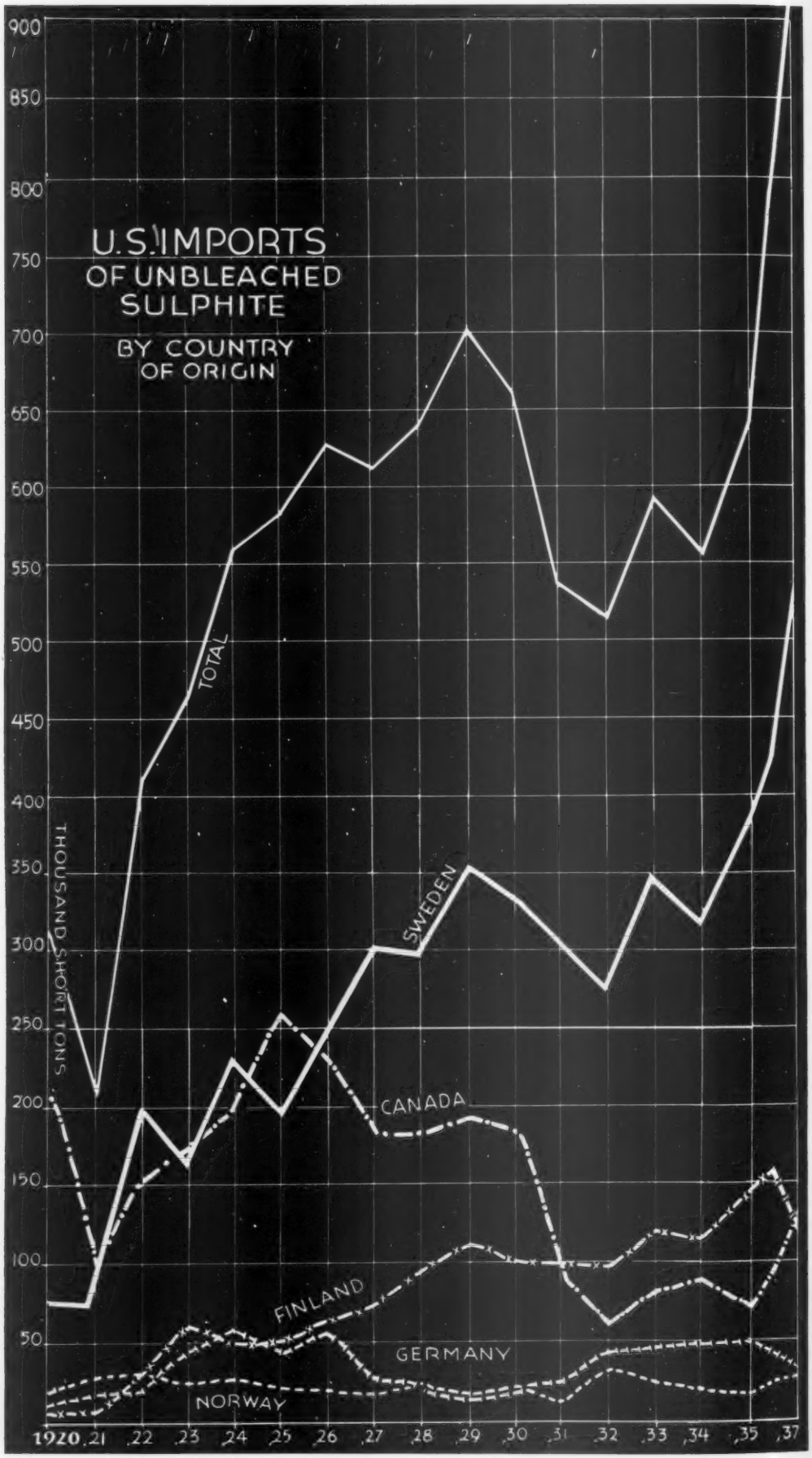
Unbleached sulphite imports from Canada last year were 128,469 tons valued at $5,330,953, while the tonnage in 1936 was 89,359 tons and the value $2,934,325. Bleached sulphite pulp from Canada amounted to 286,504 tons valued at $17,733,328, against 281,062 tons of a value of $15,295,458 in 1936. Unbleached kraft last year was 58,841 tons valued at $2,418,464 compared with 62,216 tons worth $2,079,726 in 1936. Bleached kraft from Canada last year totaled 55,212 tons worth $3,689,768, while in 1936 this grade amounted to 55,244 tons worth $3,294,067. In 1937 we imported 10,321 tons of soda pulp worth $535,898 while in 1936 we imported 12,737 tons valued at $565,571.

Finnish Exports Decline

● Finnish exports of wood pulp to the United States declined in 1937 to 285,994 short tons valued at $11,056,543 from 310,919 tons valued at $10,421,361 in 1936, a drop of 8 per cent in volume but a gain in value. Chemical pulp imports from Finland totaled 268,472 tons valued at $10,677,584 against 281,220 tons valued at $9,888,417 in 1936. Groundwood imports in 1937 were 17,326 short tons valued at $374,157 against 29,699 tons of a value of $532,944 in 1936.

The decline was in unbleached sulphite as well as in groundwood. Unbleached sulphite imports were 123,212 tons worth $4,516,734 as compared with 157,324 tons worth $5,441,726 in 1936. Bleached sulphite in the amount of 47,433 tons




U.S. IMPORTS
OF UNBLEACHED
SULPHITE
BY COUNTRY
OF ORIGIN
THOUSAND SHORT TONS
900
850
800
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
TOTAL
SWEDEN
CANADA
FINLAND
GERMANY
NORWAY
1920
.21
.22
.23
.24
.25
.26
.27
.28
.29
.30
.31
.32
.33
.34
.35
.37

worth $2,410,792 was imported in 1937 compared with 31,131 tons worth $1,431,315 in 1936. Unbleached sulphate pulp imports were 89,927 tons valued at $3,194,752, while the 1936 imports were 87,325 tons worth $2,789,362. Bleached sulphate totaled 9,200 tons in 1937 valued at $555,306 compared with 5,440 tons worth $226,014.

Norwegian Grades Decline

● Imports of wood pulp from Norway last year totaled 102,978 tons worth $5,097,459 against 125,246 tons worth $5,250,935 in 1936. All classes of pulp declined except unbleached sulphite. Imports of chemical pulp amounted to 105,663 tons worth $5,068,449 as against 119,885 tons worth $5,131,970 in 1936. Groundwood imports were 1,283 tons valued at $33,812 in 1937 compared with 5,361 tons valued at $118,965 in 1936.

Unbleached sulphite imports from Norway last year were 28,479 tons worth $1,312,882, compared with 25,391 tons worth $946,761 in 1936. Bleached sulphite tonnage was 55,614 tons worth $3,035,224 against 70,950 tons worth $3,383,696 in 1936. Unbleached kraft in the amount of 17,798 tons and worth $720,343 was imported from Norway last year compared with 23,314 tons worth $778,208 in 1936.

German Pulp Down

● From Germany this country imported 69,060 short tons in 1937 of all grades of pulp valued at $2,804,270 against 74,663 tons worth $2,881,857 in 1936, a decrease in both volume and value. This consisted of

UNITED STATES

Imports of Bleached and Unbleached Sulphate—1920 to 1937

By Countries of Origin

(Long Tons of 2,240 Pounds)

Countries:	Sweden	Canada	Finland	Norway	All Others	Total
1920	25,012	114,175	7,762	3,363	1,236	178,548
1921	57,702	89,729	5,799	522	2,733	159,006
1922	122,545	137,307	23,631	8,850	2,611	294,944
1923	84,739	131,304	20,089	10,258	2,728	249,118
1924	144,148	125,256	17,749	13,080	5,474	305,707
1925	159,282	127,567	21,170	10,568	4,635	323,222
1926	169,810	140,625	25,006	11,798	3,711	350,950
1927	180,897	138,660	19,602	10,690	2,102	351,951
1928	201,757	141,779	32,139	15,761	4,410	395,846
1929	227,760	116,290	31,907	17,079	6,333	399,639
1930	247,361	76,334	35,427	13,072	3,677	338,714
1931	259,238	52,700	55,692	4,385	6,183	378,198
1932	227,226	37,283	45,278	13,285	1,798	324,870
1933	375,583	54,412	49,288	16,513	2,612	498,408
1934	332,019	77,017	52,367	14,263	2,462	478,128
1935-37 IMPORTS IN TONS OF 2,000 LBS.						
1935	429,916	94,748	66,286	17,356	3,036	611,342
1936	499,373	117,460	92,765	23,544	4,955	738,097
1937	501,499	114,053	97,927	17,798	2,938	734,215

Source: Department of Commerce, Bureau of Foreign and Domestic Commerce.

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PACIFIC COAST PULP IMPORTS
1937*

(Short Tons—Value)

Customs District.	Unbleached Sulphite Tons	Unbleached Sulphite Value	Bleached Sulphite Tons	Bleached Sulphite Value	Unbleached Sulphate Tons	Unbleached Sulphate Value	Unbleached Groundwood Tons	Unbleached Groundwood Value	Bleached Groundwood Tons	Bleached Groundwood Value	TOTALS Tons	TOTALS Value
Los Angeles	8,077	$312,482	989	$41,082	2,838	$102,231	871	$17,033	3,461	$63,657	16,236	$536,485
San Francisco	22,536	434,117	.....	.....	4,239	147,151	.....	.....	.....	.....	26,775	581,268
Oregon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Washington	2,358	84,344	17,912	957,370	3,044	148,750	.....	.....	.....	.....	23,314	1,190,464
Totals	**32,971**	**$830,943**	**18,901**	**$998,452**	**10,121**	**$398,132**	**871**	**$17,033**	**3,461**	**$63,657**	**66,325**	**$2,308,217**

*Source: U. S. Department of Commerce, Bureau of Foreign & Domestic Commerce. 524 tons of Bleached Sulphate, value $30,607, entered Washington Customs District during 1937.

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PACIFIC COAST
Imports of Pulpwood
1937

Customs District.	Pulp—Rough: Spruce Cords	Pulp—Rough: Spruce Value	Pulp—Rough: Other Cords	Pulp—Rough: Other Value	Pulpwood—Peeled: Spruce Cords	Pulpwood—Peeled: Spruce Value	Pulpwood—Peeled: Other Cords	Pulpwood—Peeled: Other Value	Pulpwood—Chipped: Spruce Cords	Pulpwood—Chipped: Spruce Value	Pulpwood—Chipped: Other Cords	Pulpwood—Chipped: Other Value
Washington	.....	.....	616	$2540	1,710	$7,255	17,061	$74,087	.....	.....	38,402	$82,567

Totals—All imported through the State of Washington Customs District—57,789 cords, valued at $166,449.

32,740 tons of unbleached sulphite pulp valued at $1,105,187 as compared with 39,871 tons worth $1,353,696 in 1936; bleached sulphite in the amount of 35,996 tons worth $1,683,094 against 34,792 tons valued at $1,528,161 in 1936; and, 324 tons of unbleached kraft worth $15,989 against none in 1936.

Canada's Best Customer

● In 1937 the United States imported 80.2 per cent of all the wood pulp exported by Canada as compared with 84.9 per cent in 1936. The United Kingdom took 9.6 per cent in 1937 against 6 per cent in 1936. Other countries took 10.2 per cent compared with 9.1 per cent in 1936.

Sweden's Best Customer

● Of Sweden's total exports of wood pulp in 1937 amounting to 3,142,261 short tons, the United States took 1,130,075 tons or 36 per cent. Great Britain was Sweden's second best customer with a purchase in 1937 of 906,684 short tons.

Imports of Paper

Paper imports are not all subject to comparison on a weight basis due to the inclusion of articles manufactured from paper and board, some of which are declared upon importation by the number of pieces instead of by weight. Detailed paper and board import figures will be found in a table.

The value of paper and board imports in 1937 was $137,069,991 compared with the 1936 value of $110,112,348, a gain of $26,957,643 or 24.5 per cent. Details of the 1937 imports of newsprint into the United States will be found in a separate article.

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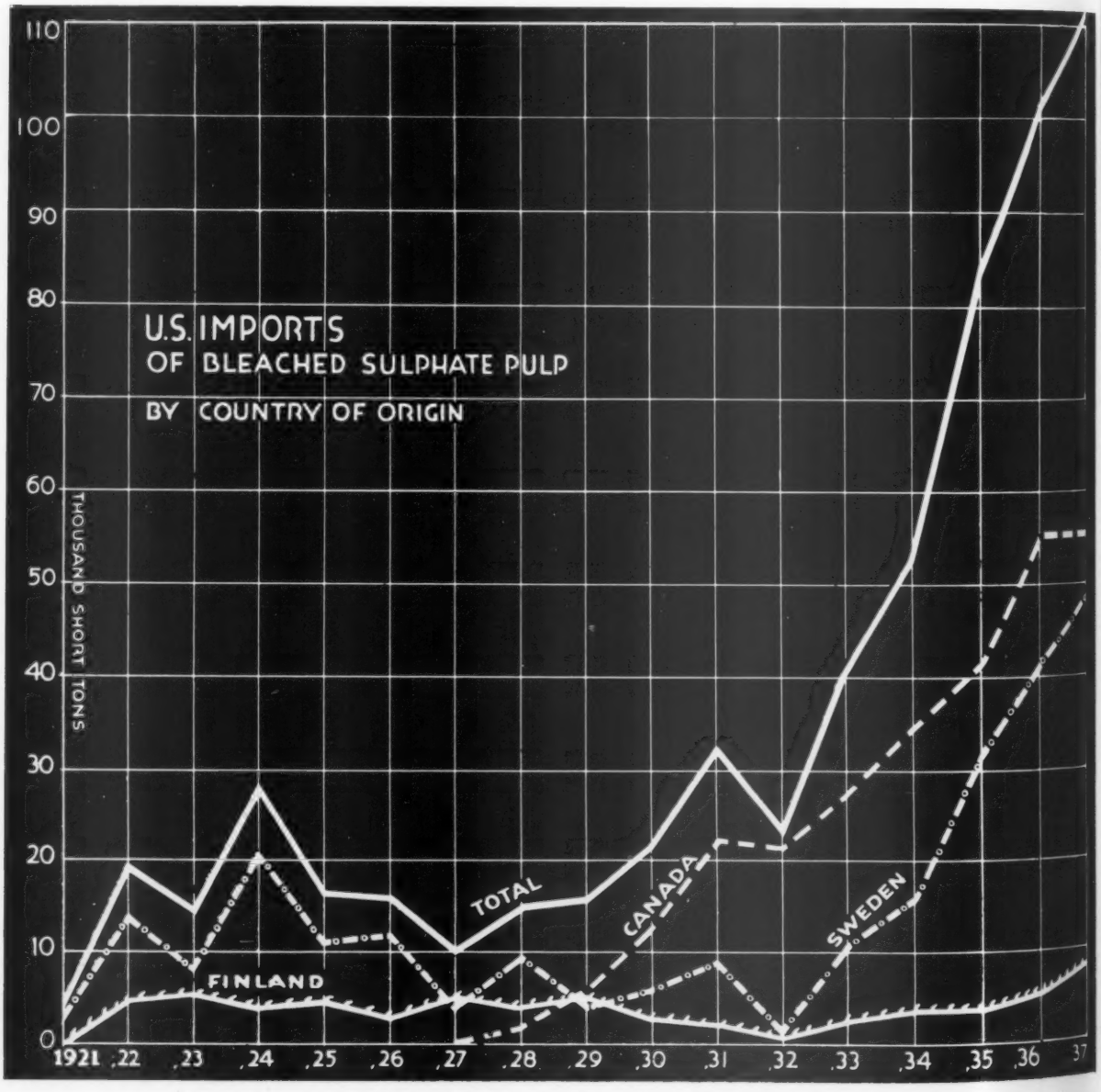
B. C. Log Exports

Log exports from British Columbia to Japan in 1937 amounted to 27,628,000 board feet.



PACIFIC COAST PULP IMPORTS

1936*

(Short Tons—Value)

District. Customs	Tons Unbleached Sulphite	Value Unbleached Sulphite	Tons Bleached Sulphite	Value Bleached Sulphite	Unbleached Sulphate Tons	Unbleached Sulphate Value	Unbleached Groundwood Tons	Unbleached Groundwood Value	Bleached Groundwood Tons	Bleached Groundwood Value	TOTALS Tons	TOTALS Value
Los Angeles	7,960	$242,428	1,302	$55,751	5,514	$168,113	.....	.....	1,155	$20,982	15,931	$987,274
San Francisco	15,390	357,145	.....	.....	6,227	133,226	1,002	$19,548	124	2,352	22,743	512,271
Oregon	1,087	23,552	.....	.....	4,276	147,009	.....	.....	.....	.....	5,363	170,561
Washington	6,544	181,327	13,470	563,243	206	6,603	37	405	.....	.....	20,257	751,578
Totals	**30,981**	**$804,452**	**14,772**	**$618,994**	**16,223**	**$454,951**	**1,039**	**$19,953**	**1,279**	**$23,334**	**64,294**	**$1,921,684**

*Source: U. S. Department of Commerce, Bureau of Foreign & Domestic Commerce. No bleached sulphate pulp was imported through Pacific Coast Ports in 1936.

PAPER AND PULP IMPORTS OF THE UNITED STATES

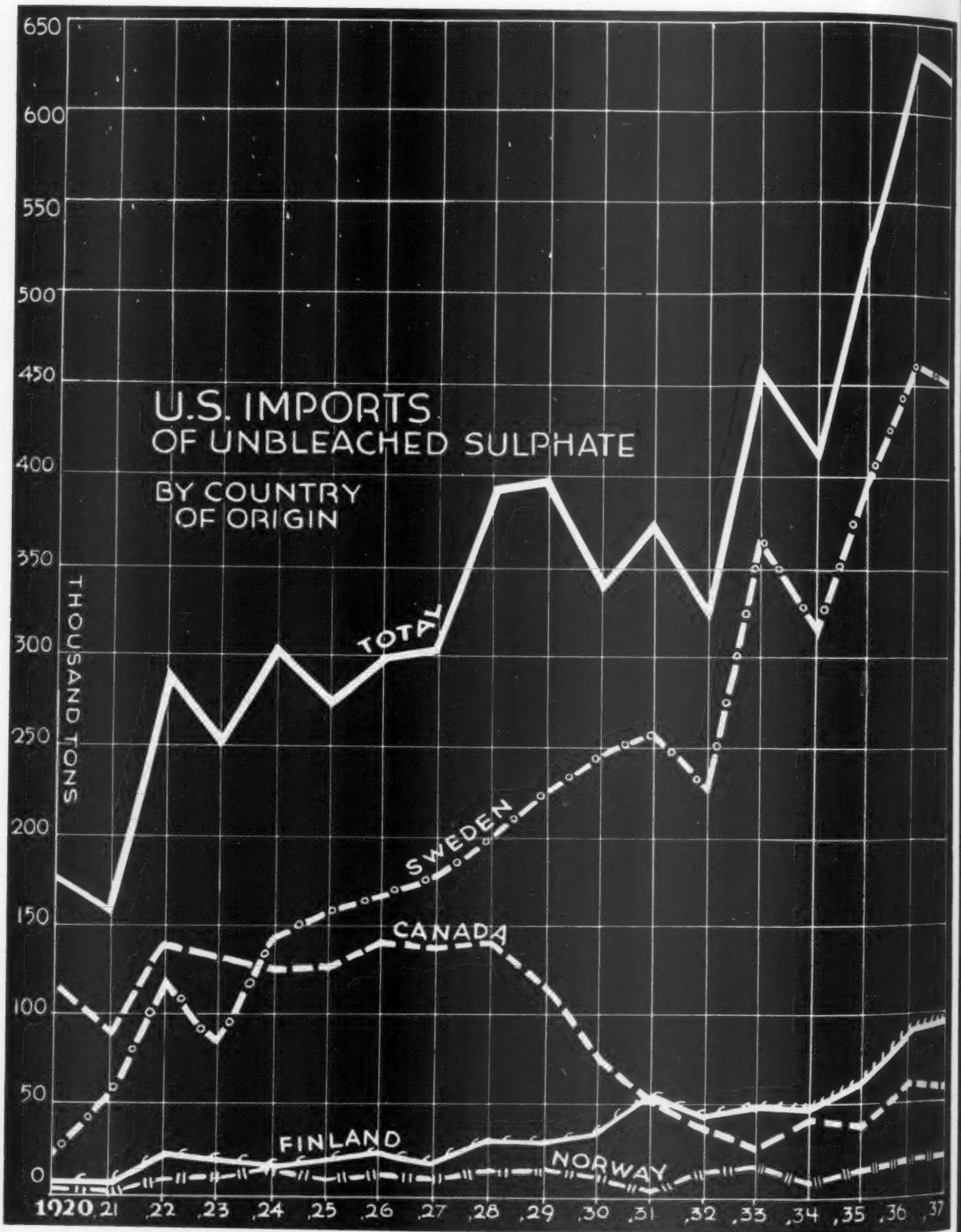
For the Twelve Months Ending Dec. 31, 1936 and 1937

PAPER IMPORTS

Articles—	12 Months, Ending Dec., 1936 Quantity	12 Months, Ending Dec., 1936 Dollars	12 Months, Ending Dec., 1937 Quantity	12 Months, Ending Dec., 1937 Dollars
Paper and Manufacturers ..... tons	.....	110,112,348	.....	137,069,991
Printing paper—				
Standard news print, free ..... 1,000 lbs.	5,503,161	96,719,470	6,634,048	122,529,421
Other,n.e.s., dut. ..... lbs.	21,056,735	455,347	30,909,847	714,866
Grease and waterproof, dut. ..... lbs.	1,002,597	148,027	1,460,158	211,321
Kraft wrapping, dut. ..... lbs.	48,166,959	1,536,148	33,227,694	1,177,176
Other wrapping, dut. ..... lbs.	2,458,766	70,902	2,956,319	76,401
Writing and drawing, dut. ..... lbs.	1,498,664	379,119	1,537,094	445,346
Paper and envelope combinations, dut. ..... lbs.	.....	33,933	.....	71,346
Surface coated, dut. ..... lbs.	1,665,368	550,783	1,756,023	723,448
Uncoated, decorated, embossed, dut. ..... lbs.	33,382	17,629	21,132	13,843
Tissue and similar paper:				
Not over 6 pounds to the ream, dut. ..... lbs.	1,135,459	546,197	1,599,646	873,586
Other, dut. ..... lbs.	820,548	302,848	648,123	328,482
Pulpboard, in rolls, dut. ..... lbs.	22,535,608	434,113	23,008,735	492,011
Paperboard, pulpwood, n.e.s., cardboard, dut. lbs. / Leatherboard, test, and wallboard, dut. ..... lbs.	42,969,074	911,130	52,154,648	1,198,205
Cigarette paper:				
Flat or in bobbins, dut. ..... lbs.	15,140,394	3,886,984	16,010,768	3,874,925
Books and book covers, dut. ..... lbs.	1,471,490	458,583	1,219,638	352,378
Hanging paper (wall paper), dut. ..... lbs.	5,619,433	319,228	6,748,184	440,777
Duplex, decalcomania, not printed, free ..... lbs.	743,523	154,588	734,963	159,155
Paper boxes, dut.	820,332 lbs	412,504	872,154	420,393
Papier mache and pulp manufactures, dut. ..... lbs.	.....	373,830	.....	448,733
Other paper and manufactures, dut.	.....	2,400,985	.....	2,594,240

PAPER BASE STOCK IMPORTS

Articles—	12 Months, Ending Dec., 1936 Quantity	12 Months, Ending Dec., 1936 Dollars	12 Months, Ending Dec., 1937 Quantity	12 Months, Ending Dec., 1937 Dollars
Paper base stocks	.....	98,919,594	.....	117,852,607
Pulpwood ..... cords	1,209,760	9,481,914	1,522,868	12,393,457
Rough:				
Spruce, free ..... cords	141,751	1,102,199	197,368	1,557,601
Other, free ..... cords	58,752	360,099	77,102	460,656
Peeled:				
Spruce, free ..... cords	799,428	6,739,170	1,013,916	8,926,107
Other, free ..... cords	178,032	902,984	171,771	1,076,208
Rossed:				
Spruce, free ..... cords	31,597	377,462	24,309	290,316
Other, free ..... cords	.....	.....	.....	.....
Chipped, free ..... cords	.....	.....	38,402	82,569
Wood and other pulp: (Tons = 2,000 pounds, airdry weight)				
Mechanically ground wood pulp:				
Unbleached, free ..... tons	206,844	3,688,971	203,583	4,026,156
Bleached, free ..... tons	20,934	362,253	14,839	316,012
Sulphite wood pulp:				
Unbleached, free ..... tons	786,720	26,778,644	919,614	34,663,053
Bleached, free ..... tons	512,168	25,824,769	511,961	29,443,254
Sulphate, wood pulp:				
Unbleached (Kraft), free ..... tons	635,722	19,771,988	622,353	22,269,976
Bleached, free ..... tons	102,375	5,844,031	111,862	7,014,450
Soda pulp, free ..... tons	12,737	565,572	10,327	536,212
Other pulp, free ..... tons	329	54,772	160	28,909
Rags for paper stock, free ..... lbs.	275,892,835	4,673,041	244,325,164	4,475,402
All other paper stock, free ..... lbs.	103,435,628	1,873,639	116,740,159	2,685,726


U.S. IMPORTS
OF UNBLEACHED SULPHATE
BY COUNTRY
OF ORIGIN
THOUSAND TONS
650
600
550
500
450
400
350
300
250
200
150
100
50
0
TOTAL
SWEDEN
CANADA
FINLAND
NORWAY
1920 .21 .22 .23 .24 .25 .26 .27 .28 .29 .30 .31 .32 .33 .34 .35 .36 .37

PACIFIC COAST PAPER IMPORTS
1937
(Short Tons—Value)

Customs District.	News Print Tons	News Print Value	Greaseproof & Waterproof Tons	Greaseproof & Waterproof Value	Kraft Wrapping Tons	Kraft Wrapping Value	Other Wrapping Tons	Other Wrapping Value	Totals Tons	Totals Value
San Diego	7,797	$219,097	....	.....	.....	.....	....	.....	7,797	$219,097
Los Angeles	71,140	2,526,330	¼	127	606	$45,795	56	$1,673	71,802	2,573,925
San Francisco	69,746	2,271,921	2	1,328	94	6,385	163 lbs.	26	69,842	2,279,660
Oregon	.....	.....	....	.....	.....	.....	....	.....	.....	.....
Washington	59,002	2,153,365	....	.....	.....	.....	22	1,498	59,024	2,154,863
Alaska	48	1,912	18 lbs.	4	.....	.....	75 lbs.	5	48	1,921
Hawaii	3,445	124,172	¾	185	.....	.....	4	1,244	3,450	125,601
Totals	211,178	$7,296,797	3	$1,644	700	$52,180	82	$4,446	211,963	$7,355,057

Source: U. S. Department of Commerce, Bureau of Foreign and Domestic Commerce.

PACIFIC COAST PAPER IMPORTS
1936
(Short Tons—Value)

Customs District.	News Print Tons	News Print Value	Greaseproof & Waterproof Tons	Greaseproof & Waterproof Value	Kraft Wrapping Tons	Kraft Wrapping Value	Other Wrapping Tons	Other Wrapping Value	Totals Tons	Totals Value
San Diego	6,800	$190,275	.....	.....	.....	.....	.....	.....	6,800	$190,275
Los Angeles	46,820	1,546,811	½	$939	1,455	$91,438	35 lbs.	$6	48,276	1,639,194
San Francisco	50,043	1,474,639	2½	1,523	51	3,267	.....	.....	50,097	1,479,429
Oregon	54	1,920	.....	.....	.....	.....	.....	.....	54	1,920
Washington	53,941	1,920,555	.....	.....	.....	.....	1½	190	53,943	1,920,745
Alaska	41	1,453	.....	.....	.....	.....	.....	.....	41	1,453
Hawaii	2,424	86,520	⅛	59	.....	.....	2½	615	2,427	87,194
Totals	160,123	$5,222,173	3	$2,521	1,506	$94,705	4	$811	161,697	$5,320,210

Source: U. S. Department of Commerce, Bureau of Foreign & Domestic Commerce.

German Pulp and Paper Industry During 1937

RECOVERY in the German pulp and paper industry did not take place as soon as in other industries owing to the manufacturers' inability to reconcile increased costs of production with prices realized, as well as to restricted consumption. During 1937 the industry experienced not only an increased turnover in volume but more satisfactory price conditions. Combined with increased exports these factors have had a decisive effect on the entire paper industry. Improvements introduced in the manufacturing process have resulted, moreover, in certain reductions in operating expenses. While the majority of paper mills were fully occupied in 1936, further increases in output were achieved last year as the result of extensions of plants and improvements in machinery. Production of paper for 1937 is estimated at 2,850,000 metric tons (metric ton — 2,204.6 pounds), as against 2,520,000 metric tons in the preceding year.

Raw Material Supply Market—Domestic Paper Supply

● The situation in the raw material supply market was greatly eased by the curtailment of wood pulp exports from 236,000 metric tons in 1936 to 166,400 metric tons in 1937, while imports were increased from 157,200 metric tons to 185,200 metric tons. Approximately one-half of Germany's imports of chemical wood pulp were supplied by Sweden, the remaining imports coming chiefly from Finland, Czechoslovakia, and Norway in the order named.

The volume of domestic paper supply is essentially influenced by the notably higher exports of this product, leaving correspondingly smaller quantities available for home consumption. The retail paper trade complains of growing difficulties in procuring supplies and prompt deliveries. Exports of paper in 1937 amounted to 387,244 metric tons valued at 106,356,000 (reichsmark—$0.4011 United States currency), as against 323,001 metric tons valued at 81,461,000 reichsmark in 1936. Heavy increases in production took place for special papers for the electrical construction industry and luxury papers. The increase in output of writing and printing papers was less marked.

Production Cost Increase

● The production cost factor played an important part in the paper industry. Not only had a sharp rise occurred in pulpwood prices, but quotations on a number of secondary raw materials also showed appreciable advances. Transportation costs were also higher.

In order to counteract the higher production costs a more intensive effort was made to utilize byproduts such as pulpwood residues and waste liquor. One of the largest pulp and paper-making concerns was able to increase its alcohol production, and a number of other plants have taken up the manufacture of this product. Detergents utilized in admixtures in intensifying the fatty acid content and neutralizing undesirable effects of soda are now being extracted from waste liuqour. Valuable abrasives are also being obtained from this product. (American Consulate General, Frankfort-on-Main.)

Wage Rates of Pacific Coast Mill Employees Highest in World Industry

Average hourly earnings of Pacific Coast pulp and paper mill employees 31% above average for other pulp and paper making regions of United States—1,089% higher than lowest average hourly foreign wage and 118% higher than highest average hourly foreign wage

CURRENT wages in the American pulp and paper industry are far in excess of those paid in the industry in all foreign countries, and wages paid on the Pacific Coast are considerably higher than those in all other pulp and paper producing regions of the United States. These facts are revealed in statistics recently made available by the Pacific Coast Association of Pulp and Paper Manufacturers, the National Industrial Conference Board, Incorporated, and the American Paper & Pulp Association.

The Pacific Coast has also led all other sections in pay increases given the workers during the past several years. Average hourly earnings on the Pacific Coast, which were 61.8 cents in 1935, have risen to 79.7 cents in 1938. The average for all other regions of the United States were 52.2 cents per hour in 1935, rising to 61 cents in 1938. The average Pacific Coast worker who, in 1935, earned an hourly wage of over 18 per cent more than his fellow workers in other sections, now earns approximately 31 per cent more per hour, despite the fact that wages in other sections of the nation rose 17 per cent during this period.

Earnings of workers in the pulp and paper industry in foreign countries vary widely, and in all cases are much lower than those in the United States. They range from the extreme low of the equivalent of 45 cents per day in Japan to a high of $2.41 per day in Norway, a range which, according to our standards, would amount to nine cents up to 30 cents per hour.

While the available figures do not present the picture in the various countries from the same angle in all cases, they express in a general way the relative wage levels and provide a basis on which to study comparative wages.

● These data, compiled from official sources, show that the average hourly earning of male workers in the Finland industry was 14.8 cents per hour, while females earned 7.6 cents per hour in 1936. The average rate in Denmark ranged from 26.8 cents per hour in the provinces to 28.6 in Copenhagen.

German workers in paper production received, if skilled, an average of 30.5 cents per hour in 1936, while unskilled employees were paid an average of 23.1 cents. In Norway, chemical pulp workers earned an average daily wage of $2.53; those making mechanical pulp received an average of $2.21 per day; paper and cardboard workers were paid an average of $2.34. This amounted to a general average of $2.41 per day for the entire industry, in 1936. Swedish pulp mills paid their men an average of 29.5 cents per hour in the same year, while paper and cardboard mills paid 28.2 cents to men and 18.2 cents to women.

In the paper and board making industry of Great Britain, the average wage earner received $12.88 per week for an average week of 48.2 hours, or slightly less than 27 cents per hour. These figures were for October, 1935, the latest available. Paper makers in Italy earned 10 cents as the average hourly wage as late as October, 1937. In Japan, male workers in the manufacture of foreign style paper had average daily earnings of 51 cents, based on current rates of exchange, and female workers earned 16 cents per day in 1936. Makers of Japanese paper received 45 cents per day, and those making printing paper were paid an average of 59 cents per day. These average earnings include overtime and night work, bonuses for quality and food allowances.

STATE OF WASHINGTON
PAYROLLS AND HOURS WORKED
1927 - 1937*

Year.	ALL HAZARDOUS INDUSTRY OF STATE — Payroll	Workmen Hours	Increase or Decrease Compared With Preceding Year — Payroll	Hours Work	LUMBERING — Payroll	Workmen Hours	Increase or Decrease Compared With Preceding Year — Payroll	Hours Work	PULP AND PAPER MANUFACTURING — Payroll	Workmen Hours	Increase or Decrease Compared With Preceding Year — Payroll	Hours Work
1927	$255,669,929	396,071,584			$83,446,482	130,841,328			$4,855,526	7,710,848		
1928	271,223,403	414,002,480	6.08%	4.53%	83,782,300	127,973,488	.40%	-2.19%	5,573,223	8,507,600	14.78%	10.33%
1929	288,903,912	437,600,400	6.52%	5.70%	86,986,842	131,720,152	3.82%	2.93%	7,845,335	12,275,072	40.77%	44.28%
1930	260,002,808	397,369,096	-10.00%	-9.19%	63,093,612	98,102,528	-28.45%	-25.52%	9,110,285	13,874,832	16.12%	13.03%
1931	188,705,890	317,120,680	-27.42%	-20.19%	33,236,663	64,161,624	-47.32%	-34.60%	6,990,889	11,360,944	-23.26%	-18.12%
1932	131,893,000	255,078,920	-30.11%	-19.56%	16,853,140	41,214,176	-49.29%	-35.77%	5,063,638	8,960,224	-27.57%	-21.13%
1933	129,023,888	260,928,662	-2.18%	2.29%	23,101,145	51,066,187	37.07%	23.90%	5,166,375	9,693,579	2.03%	8.18%
1934	161,702,804	284,179,483	25.33%	8.91%	29,693,289	51,106,876	28.54%	.08%	7,435,151	11,835,457	43.91%	22.10%
1935	187,578,233	312,935,429	16.00%	10.12%	35,389,039	57,808,831	19.18%	13.11%	8,131,888	12,560,285	9.37%	6.12%
1936	241,960,112	379,926,777	28.99%	21.41%	51,799,595	77,214,714	46.32%	33.57%	9,858,151	14,638,927	21.23%	16.55%
1937	286,480,085	412,743,811	18.40%	8.64%	58,947,801	77,777,272	13.80%	.75%	12,607,622	16,305,933	27.89%	11.37%

Industry as a whole: Payroll and hours work respectively in 1937 are 12.05% and 4.21% more than in 1927, and .84% and 5.68% less than in 1929, the peak year of all industry.

Lumbering Industry: Payroll and hours work respectively in 1937 are 29.36% and 40.56% less than in 1927, and 32.23% and 40.95% less than in 1929, the peak year of that industry.

Pulp and Paper Mfg.: Payroll and hours work respectively in 1937 are 159.66% and 111.47% greater than in 1927, and 60.70% and 32.84% greater than in 1929, and 38.39% and 17.52% greater than in 1930, the peak year of that industry.

* Prepared by the Statistical Division, Department of Labor and Industries, State of Washington, Olympia, Washington.

1937 Payrolls, Employment

• The importance of pulp, paper, board and allied manufacturing in Washington, Oregon and California is steadily growing. The percentage of the total industrial employment and payroll contributed by this industry to the welfare of the several states, is becoming larger each year.

Last year's payrolls and employment broke all previous records. At this time when mills are operating at far less than capacity it is important to note that the industry is more stable than lumbering, the largest industry of Oregon and Washington. In the past depression, it will be noted from the tables, the pulp and paper industry declined less than lumbering and in its revival far exceeds previous highs while lumbering did not regain its lost importance as a source of employment and payrolls.

It is generally recognized that the Pacific Coast pulp and paper industry is a long way from attaining its maximum potential development justified by natural advantages, one being tremendous resources of quality pulpwood. On the other hand the lumbering industry is conceded to have passed its peak of production, probably in 1926. In 1937 the lumbering industry of Oregon and Washington fell far below 1927 in both payroll and hours worked.

The two industries have become complementary and will in the future be more dependent upon each other. Timber stands being logged today contain many times the percentage of hemlock and white fir than was found in the stands logged ten years ago. The lumber industry's marketing system is not geared to absorb this increasing quantity of hemlock. It is a good wood for lumber but not as good for structural purposes as is Douglas fir, and it lacks the reputation among buyers. A surplus of hemlock is being logged today along with the fir. Some logging shows are such that the hemlock must be removed with the fir and sold for what it will bring. Others permit selective logging. The hemlock is left standing if the market price is unprofitable, to be cut at some future date when a profit can be obtained.

There is not enough capacity today in the pulp and paper industry in the Pacific Northwest to absorb the hemlock and white fir which could be economically logged with the Douglas fir for lumber.

As the pulp and paper industry expands the balance between it and

the lumbering industry will be improved and both will be benefitted. Payrolls and employment will then be more stable in the lumbering industry.

Washington

● In 1937 the payroll of the pulp and paper industry in the State of Washington amounted to $12,607,662, an increase of 27.89 per cent over the payroll of 1936. Hours worked in 1937 totaled 16,305,933 which was an increase of 11.37 per cent over 1936. The 1936 payroll, it will be noted from the table prepared by the Statistical Division of the Department of Labor and Industries, was 21.23 per cent larger than in 1935, and hours worked in 1936 were 16.55 per cent greater than the hours worked in 1935.

In the decade since 1927 the pulp and paper industry in Washington has increased its payroll 159.66 per cent and the hours worked 111.47 per cent. The 1937 payroll was 60.70 per cent greater than that of 1929 and the hours worked 32.84 per cent greater.

Last year was the second year in which payrolls and hours worked surpassed the previous peak year of 1930 by 38.39 per cent and 17.52 per cent respectively.

Lumbering increased its 1937 payroll over 1936 by 13.80 per cent and hours worked by but .75 per cent. All hazardous industry in the State of Washington increased in payroll but 10.40 per cent and in hours worked by 8.64 per cent.

Wage Agreement Automatically Extended to May 31st, 1939

As neither the Pacific Coast Pulp & Paper Mill Employees Association nor the Pacific Coast Association of Pulp & Paper Manufacturers filed a request for a wage agreement meeting within the required 30 days before expiration of the year's contract on May 31st, 1938, the agreement made a year ago is automatically extended until May 31st, 1939.

This is the first automatic extension of the agreement which was put into effect August 3, 1934. In previous years the original agreement has been altered by negotiation between the employees association, as the bargaining agency for the two unions, the International Brotherhood of Pulp, Sulphite & Paper Mill Workers and the International Brotherhood of Paper Makers, and the manufacturers association.

Oregon

● The Oregon pulp and paper industry's payroll in 1937 was $4,298,917.22. This was $720,293 more than the 1936 payroll, a gain of 21 per cent. Work days were 857,696 or 18,633 days more than in 1936, gain of 2.2 per cent. The 1937 payroll and hours worked was the largest in the history of the in-

PULP

Employment, Wages, Salaries, Etc.

Census of Manufacture—1935

STATE	No. of Establishments	Salaried Officers & Employees[1]	Wage Earners (Av. for the year)	Salaries	Wages	Cost of Materials, Fuel and Electric Energy	Value of Products	Value Added by Manufacture
Oregon	7	51	998	$97,876	$963,142	$3,651,684	$5,878,582	$2,226,898
Washington	17	419	3,047	998,082	3,521,651	14,024,744	26,207,541	12,182,797

Source: Census of Manufactures, Bureau of the Census, U. S. Department of Commerce for 1935.

PAPER

Employment, Wages, Salaries, Etc.

Census of Manufacture—1935

STATE	No. of Establishments	Salaried Officers & Employees[1]	Wage Earners (Av. for the year)	Salaries	Wages	Cost of Materials, Fuel and Electric Energy	Value of Products	Value Added by Manufacture
California	11	229	1,890	$587,852	$2,234,705	$6,572,554	$13,502,039	$6,929,485
Oregon	6	145	1,852	321,564	1,910,773	8,150,309	12,361,310	4,211,001
Washington	13	252	2,680	691,962	3,239,287	15,209,778	27,017,325	11,807,547

Source: Census of Manufactures, Bureau of the Census, U. S. Department of Commerce for 1935.

dustry in the State of Oregon, surpassing the fiscal year of 1927-1928 by $1,607,697.04 or 59.7 per cent. The work days in 1937 exceeded those of the 1927-1928 fiscal year by 275,863 work days or by 47.4 per cent.

California

● As the State of California's system of reporting industrial employment is neither complete nor comparable with the data released by the states of Oregon and Washington, it is omitted here. However, the latest accurate employment data is presented, having been taken from the Census of Manufacturers of the Bureau of Census, U. S. Department of Commerce for 1935. (the results of the 1937 Census of Manufactures is not yet available) It will serve to give an approximate idea of the paper industry in California although it must be borne in mind that the data is for 1935 and therefore considerably less in all items than the 1937 census will show when released. The California industry has experienced much development in the past two years, particularly in the converting branch of the industry.

STATE OF OREGON

Payrolls and Employment

1927-1937*

PULP AND PAPER MANUFACTURING

Year	Payroll	Work Days	Approximate Number Employees
Fiscal Year 1927-1928	$2,691,220.18	581,833	1,939
Fiscal Year 1928-1929	2,946,218.92	640,724	2,136
Six Mos. July to Dec., 1931, Inc.	1,017,435.13	235,114	1,566
Calendar Year 1932	1,896,692.09	504,311	1,681
Calendar Year 1933	1,819,904.95	535,789	1,786
Calendar Year 1934	2,577,436.84	700,842	2,336
Calendar Year 1935	2,984,889.22	778,547	2,837
Calendar Year 1936	3,578,624.01	839,063	2,697
Calendar Year 1937	4,298,917.22	857,696	2,861

*Statistics furnished by the Oregon State Industrial Accident Commission.
Data from July 1, 1929, to June 30, 1931, not available.

STATE OF OREGON

Payrolls and Employment

1927-1937*

LOGGING, SAWMILLING AND OTHER WOODWORKING EXCEPT FURNITURE

Year	Payroll	Work Days	Approximate Number Employees
Fiscal Year 1927-1928	$37,303,247.94	7,572,941	25,243
Fiscal Year 1928-1929	41,527,222.99	8,458,177	28,194
(Six Mos. July to Dec., 1931, Inc.)	9,151,629.22	2,511,442	8,371
Calendar Year 1932	10,881,821.85	3,252,878	10,843
Calendar Year 1933	11,624,343.30	3,682,746	12,276
Calendar Year 1934	16,751,384.40	4,409,412	14,698
Calendar Year 1935	20,028,984.96	4,856,833	16,189
Calendar Year 1936	23,894,402.56	5,420,549	18,069
Calendar Year 1937	30,458,727.60	6,090,363	20,302

*Statistics furnished by the Oregon State Industrial Accident Commission.
Data from July 1, 1929, to June 30, 1931, not available.

Foreign Producers Exported More Pulp in 1937

Canadian Exports Up 15.4% – Sweden Increased Exports 12% – Norwegian Exports Gain 10.6% – Finnish Pulp Exports Rise 8%

● The leading wood pulp exporting countries all increased their exports of wood pulp in 1937 over 1936, with Canada ahead with a 15.4 per cent increase over the previous year's exports. Swedish exports of wood pulp increased 12 per cent, Norwegian 10.6 per cent and Finnish 8 per cent over 1936.

The Canadian exports of wood pulp in 1937 aggregated 870,711 short tons valued at $41,815,721 as compared with 754,489 tons valued at $31,246,695, a gain of 15.4 per cent in tonnage. In value the gain was $10,569,026 or 33.8 per cent. Shipments of wood pulp from Canada last year were only 132,370 tons or 13.1 per cent below the high record of 1926.

Canadian exports of groundwood pulp amounted to 166,796 short tons valued at $4,145,552. This was a gain of 33,284 tons or 24.9 per cent over the 133,512 tons exported in 1936, and a rise in value of $1,304,501 or 45.9 per cent above the $2,841,051 value of the 1936 exports.

Exports of bleached sulphite pulp from Canada last year amounted to 360,877 short tons, a gain of 9,227 tons or 2.6 per cent. Unbleached sulphite exports of 176,265 tons were 63,176 tons or 56 per cent larger than the unbleached sulphite exports in 1936.

Sulphate pulp exports were 122,779 short tons in 1937 as compared with 119,400 tons in 1936, a gain of 3,379 tons or 2.8 per cent.

The United States took 65 per cent of Canada's unbleached sulphite exports; 79 per cent of the bleached sulphite exports; 87 per cent of the mechanical pulp exports and 92.5 per cent of the sulphate pulp exports in 1937. Great Britain was Canada's second best export market and Japan third.

Sweden's Pulp Exports

● With a total exportation of wood pulp in 1937 of 3,142,261 short tons, Sweden exhibited an increase of 12 per cent over the 1936 exports of all grades. Of this total the United States took 1,130,075 short tons or 36 per cent and Great Britain 906,684 short tons or 28.8 per cent. The two countries together accounted for about 65 per cent of all Sweden's wood pulp exports.

The 1937 exports of 3,142,261 tons represented an increase of 339,007 short tons over the 1936 shipments. Mechanical pulp exports were up 71,150 short tons from 641,764 tons in 1936 to 712,914 tons in 1937. Bleached sulphite exports last year were 433,169 short tons as compared with 343,136 short tons in 1936, a gain of 90,033 tons.

Unbleached sulphite exports rose to 1,005,627 short tons last year from 933,210 tons in 1936, a rise of 72,417 tons. Bleached sulphate pulp exports of 96,253 tons was 19,599 tons larger than the 76,694 tons exported in 1936. Unbleached sulphate exports were 894,298 tons in 1937 against 808,449 tons in 1936.

Finland's Pulp Exports

● Finland's wood pulp exports for 1937 amounted to 1,616,914 short tons of all grades, a gain of 122,508 short tons over the total of 1,494,406 short tons exported in 1936. The percentage gain of 1937 over 1936 was 8.2 per cent, and 21 per cent over 1935 exports.

Mechanical wood pulp exports from Finland in 1936 were 319,644 short tons, up 14,200 tons over the mechanical pulp exports of 305,444 short tons in 1936.

Sulphite pulp exports in 1937 totaled 906,011 short tons, a gain of 72,610 tons over the 833,401 short tons exported in 1936. (As the Bank of Finland's export data does not differentiate between bleached and unbleached sulphite and sulphate pulps, it is not possible at this date to obtain the breakdown.)

Sulphate pulp exports from Finland last year aggregated 391,260 short tons, 35,699 tons larger than the 355,561 short tons exported in 1936.

In 1935 Finland exported a total of 1,335,090 short tons of wood pulp, all grades, which included 318,819 short tons of mechanical pulp, 757,552 short tons of sulphite pulps and 258,719 short tons of sulphate pulps.

Norwegian Exports Up

● Norway managed to increase pulp exports in 1937 despite a serious decline in unbleached sulphite exports. The increase for all grades was 103,526 short tons, or 10.6 per cent over the 969,588 short tons total for 1936. Exports in 1937 totaled 1,073,114 short tons.

Mechanical pulp exports of 662,707 short tons were 56,773 tons or 9.3 per cent larger than those of 1936 but 102,865 tons under 1935 exports of 765,572 short tons.

Bleached sulphite exports from Norway reached 298,183 short tons, a gain of 47,025 tons or 18.7 per cent. Unbleached sulphite exports declined 37.5 per cent or 27,698 short tons down to 46,103 short tons in 1937. Unbleached sulphate exports were 32,255 short tons in 1937, 18.7 per cent or 5,084 short tons larger than the 1936 exports of this grade.

Germany's Exports Reduced

● Exports of wood pulp from Germany were reduced from 259,600 short tons in 1936 to 183,040 short tons in 1937, a reduction of 76,560 short tons. Of this total of 183,040 short tons exported from Germany in 1937, the United States took 69,060 short tons valued at $2,804,270. This was made up of 35,996 short tons of bleached sulphite valued at $1,683,094; 32,740 short tons of unbleached sulphite pulp worth $1,105,187; and, 324 short tons of unbleached sulphate worth $15,989.

The decline of Germany's wood pulp exports is due to increased demand for wood pulp at home, particularly in the rayon and staple fiber industries.

World Rayon Production Up 32%—Consumption Declines

U. S. Production Sets New Record in 1937 but Consumption Declined in Final Quarter—First Quarter U. S. Production 25% Under 1937 Quarter—U. S. Staple Fiber Production in 1937 Up 63% Over 1936

ALTHOUGH the world rayon and staple fiber industry set a new record in 1937 with an estimated consumption of 1,725,000,000 pounds or 420,000,000 pounds (32%) more than the 1,305,000,000 pounds in 1936, consumption generally failed to keep pace in the final quarter and the year ended with approximately two and a half month's supply of yarn on hand (in the United States) as compared with approximately a three-day supply at the start of 1937.

These stocks were not considered excessive but were sufficiently large to cause curtailed production in an effort to work them down. Hence production of rayon yarn in the United States was 25 per cent under that of the first quarter of 1937 with 57.5 million pounds against 76.8 million pounds.

United States production of rayon (filament) yarn in 1937 amounted to 312,236,000 pounds, an increase of 12 per cent over the 1937 production of 277,626,000 pounds, according to the Rayon Organon. The viscose plus cuprammonium (combined to avoid disclosing cuprammonium production of individual plant) totaled 238,191,000 pounds, 11 per cent over the 1936 total. Acetate rayon yarn production of 74,045,000 pounds in 1937 was 18 per cent greater than in 1936.

Production of rayon staple fiber in the United States was 20,100,000 pounds or 63 per cent above the 1936 production of 12,300,000 pounds.

Pulp Consumed

It is estimated by the Rayon Organon that 140,000 short tons of purified wood pulp was consumed in the United States in 1937 in the manufacture of rayon filament yarn and rayon staple fiber. It is also estimated that the consumption of cotton linters amounted to 175,000 bales of raw linters or approximately 80,000,000 pounds of refined cotton linters. The total estimated consumption of both wood pulp and cotton linters is 360,000,000 pounds, of which wood pulp supplied 78 per cent and linters 22 per cent.

Definite information is not available on the production of viscose and acetate transparent cellulose sheeting, but it has been estimated at 80,000,000 pounds in 1937 or 12 per cent above 1936. Of this approximately 70,000,000 pounds is said to be viscose sheeting and 10,000,000 acetate.

On the basis of 70,000,000 pounds of viscose sheeting the wood pulp necessary to produce this volume would be roughly 43,000 short tons.

Adding this to the wood pulp required for filament and staple yarn a total of 180,000 short tons is obtained as the consumption for 1937.

This 180,000 tons is incomplete

RAYOTWIST CORDS, the exceptionally strong rayon used in weaving the fabric for Goodyear's new YKL bus and truck tires » » » Made of Du Pont's new "Cordura" rayon yarn » » » The unusual strength of "Cordura" opens up new fields of usefulness for viscose rayon and markets for dissolving wood pulps.

as it does not include the unknown quantities of wood cellulose employed in the United States in the manufacture of lacquers and plastics. It is probable that a conservative estimate covering the entire consumption of wood cellulose in chemical usage would bring the total to well over 200,000 short tons in 1937.

Pacific Coast Pulp Capacity

● The capacity of bleached sulphite pulp mills on the Pacific Coast for producing high grade dissolving pulps for chemical uses is approximately 1,110 tons per day or 333,000 short tons on a 300 operating days per year basis. Of this total 810 tons per day or 243,000 short tons per year capacity is located on the American side and 300 tons per day or 90,000 short tons per year capacity is located on the Canadian side of the line.

New Uses for Rayon

● Rayon and rayon staple fiber are continuing to develop new outlets which will assure further growth of production and consumption in the future. They are steadily increasing in popularity with the consumer because of uniform high quality which gives satisfaction. Technical progress moves forward, improving the qualities of rayon filaments and staple fibers. What this will bring in the way of new markets cannot be definitely outlined but it is safe to assume that rayon's growth will continue in both the well developed fields and in new markets just now opening up.

The most outstanding new and potentially large market is in the tire industry. Du Pont has developed an exceptionally strong and uniform viscose filament rayon called "Cordura." In cooperation with the Goodyear Tire & Rubber Company this new rayon has been applied to tires with remarkable success. The new tire with an all viscose rayon fabric sells at present for about 25 per cent more than the cotton fabric tire but it is delivering far greater mileage, frequently 100 per cent more, will stand retreading or recaping as much as five times and is far safer than the best cotton cord tire made, according to Goodyear.

So far the rayon tire is made only for busses and trucks whose severe punishment of tires demanded the development of a better tire. Later on it is understood that tires made with the Rayotwist Cord will be offered for passenger cars. At present there is insufficient production of the "Cordura" yarn to permit its adoption in all tires.

This same rayon is moving into industrial fields, displacing cotton. The quadrilateral jibsail on America's Cup defender "Ranger" was made of "Cordura" and proved stronger than cotton.

These are but two of the new fields for rayon. It is moving surely into men's suitings, particularly in staple fiber form. It is expanding in the drapery and upholstery markets.

This Year's Consumption

● While the consumption of rayon and staple fiber is improving from the low point of the first of the year and production is rising again, too, they are much below 1937. The remainder of 1938 may bring about a new record for rayon in this country and throughout the world but probably the best the industry can do is to hold to a level between the 1936 and 1937 levels of production and consumption.

The new outlets, such as automobile tires, are still in the early stages of development. Time will be required to develop them to major outlets for rayon yarn and naturally for wood pulp, too.

Foreign Production

● Japan again held the leading role in rayon filament yarn production in 1937 which she took from the United States in 1936. In 1937 Japan produced 334,350,000 pounds of filament rayon yarn as compared with 274,995,000 pounds in 1936 and 153,101,000 pounds in 1934. Of this 1937 total 324,750,000 pounds was made by the viscose process.

Staple fiber production in Japan in 1937 was 174,756,000 pounds as compared with 45,850,000 pounds in 1936, a gain of 281 per cent nearly up to the 300 per cent predicted a year ago when Japan announced plans for this extensive development.

The total viscose filament yarn production added to that of staple fiber makes 499,506,000 pounds. This would require about 312,000 short tons of bleached sulphite dissolving pulps.

In 1937 Japan imported 327,988 short tons of rayon pulps of which 156,036 were bought from the United States. From the State of Washington 111,682 short tons of bleached sulphite pulp were shipped to Japan in 1937, and most of this was of rayon grade. The value was $8,020,115.

United States Rayon Yarn Producers

Viscose Process:

Acme Rayon Corp., Cleveland, Ohio	1 plant
American Enka Corp., Enka, North Carolina	1 plant
Delaware Rayon Co., New Castle, Delaware	1 plant
E. I. duPont de Nemours Co., Inc., Buffalo, N. Y., Old Hickory, Tenn.; Richmond, Va.	3 plants
Hampton Company, Easthampton, Mass.	1 plant
Hartford Rayon Corp., Rocky Hill, Conn.	1 plant
Industrial Rayon Corp., Cleveland, Ohio	2 plant
New Bedford Rayon Co., New Bedford, Mass.	1 plant
North American Rayon Corp., Elizabethton, Tenn.	1 plant
Skenandoa Rayon Corp., Utica, New York	1 plant
Tubize Chatillon Corp., Rome, Georgia	1 plant
American Viscose Corp., Marcus Hook, Pa.; Lewiston, Pa.; Roanoke, Va.; Parkersburg, Va.	4 plants
Woonsocket Rayon Co., Woonsocket, R. I.	1 plant

Acetate Process:

Celanese Corp. of America, Cumberland, Md.	1 plant
E. I. duPont de Nemours & Co., Inc., Waynesboro, Va.	1 plant
Tennessee Eastman Corp., Kingsport, Tenn.	1 plant
The Viscose Co., Meadville, Pa.	1 plant

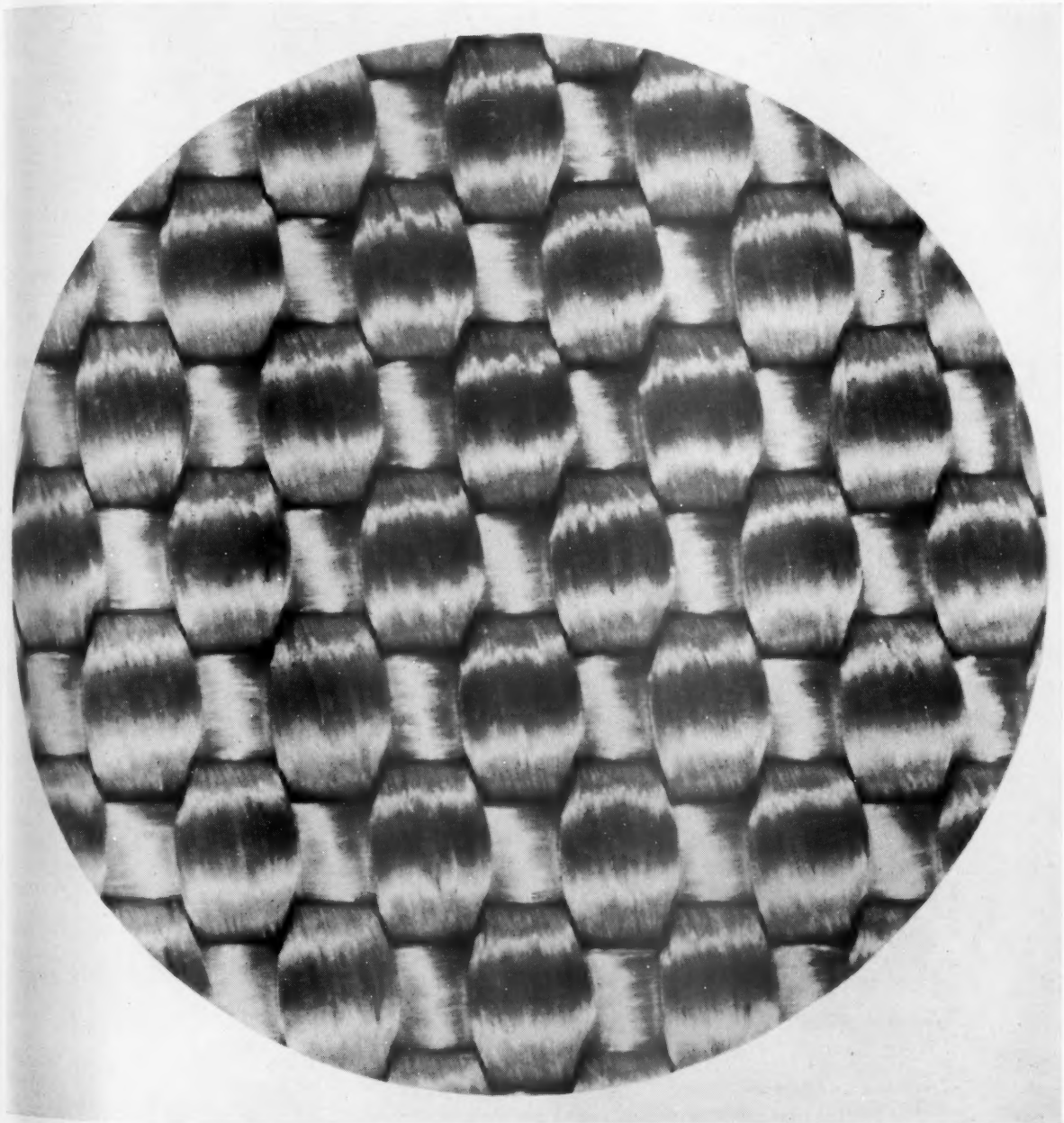
Cuprammonium Process:

American Bemberg Corp., Elizabethton, Tenn.	1 plant
New Process Rayon, Inc., Gloucester City, N. J.	1 plant

● Great Britain produced 119,696,000 pounds of rayon filament yarn in 1937 compared with 116,811,000 pounds in 1936. Staple fiber production rose from 28,497,000 pounds in 1936 to 35,126,000 pounds in 1937.

● Italy produced 48,331 metric tons of rayon filament yarn in 1937 compared with 38,905 metric tons in 1934; 70,922 metric tons of staple fiber in 1937 against 9,800 metric tons in 1934. Lanital, the synthetic casein fiber, was produced in the amount of 1,626 metric tons in 1937 compared with 275 metric tons in 1936, the first year of production.

● Germany, Italy, Great Britain and France all made gains in rayon yarn and rayon staple fiber production and consumption in 1937. Germany and Italy concentrated upon the development of synthetic fibers as important problems of national economy. Germany has increased the production of staple fiber from 2,700 metric tons in 1932 to 100,000 metric tons in 1937. Rayon filament yarn production rose from 26,700 metric tons in 1932 to 57,000 metric tons in 1937.



WOOD PULP DEFENDS THE "AMERICA'S CUP" » » » The surface of the new and exceptionally strong "Cordura" viscose rayon sailcloth as used in the quadrilateral jib of America's 1937 cup defender "Ranger," as it appears under the microscope and magnified 42 diameters » » » The uniform weave is clearly evident » » » Photograph courtesy of the duPont Company.

The Pacific Coast Depends

FROM CANADA to MEXICO

Serves the Growing Pacific Coast Pulp and Paper Industry

Pacific Mills, Limited	OCEAN FALLS, B. C.
Puget Sound Pulp & Timber Co.	BELLINGHAM
Puget Sound Pulp & Timber Co.	ANACORTES
Everett Pulp & Paper Co.	EVERETT
Soundview Pulp Company	EVERETT
Weyerhaeuser Timber Co.	EVERETT
Fibreboard Products, Inc.	PORT ANGELES
Rayonier Incorporated	PORT ANGELES
Washington Pulp & Paper Corp.	PORT ANGELES
National Paper Products Co.	PORT TOWNSEND
Rayonier Incorporated	HOQUIAM
Rayonier Incorporated	SHELTON
Everett Pulp & Paper Co.	TACOMA
Rayonier Incorporated	TACOMA
St. Regis Kraft Company	TACOMA
Longview Fibre Company	LONGVIEW
Fir-Tex Insulating Board Co.	ST. HELENS
St. Helens Pulp & Paper Co.	ST. HELENS
Crown Willamette Paper Co.	CAMAS
Crown Willamette Paper Co.	WEST LINN
Crown Willamette Paper Co.	LEBANON
Hawley Pulp & Paper Co.	OREGON CITY
Oregon Pulp & Paper Co.	SALEM
Fibreboard Products, Inc.	LOS ANGELES
California Fruit Wrapping Mills	POMONA

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NASHUA, NH

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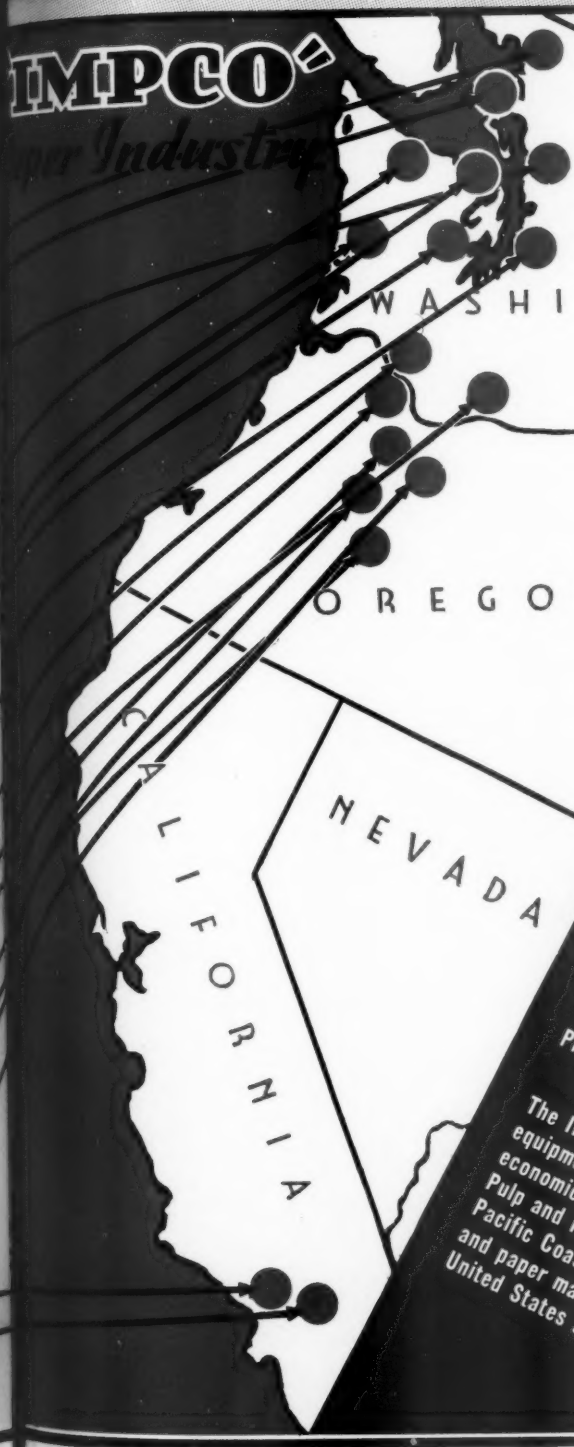

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Vacuum Filters, including Save-alls, Washers, High Density Thickeners, Lime Sludge Filters, Black Liquor Washers, Forming Cylinders

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The IMPCO line of "IMPROVED" equipment is assisting in the economical production of Quality Pulp and Papers, not only on the Pacific Coast but in all other pulp and paper making regions of the United States as well

25

PACIFIC COAST MILLS

...R MACHINERY CORPORATION

..., NEW HAMPSHIRE

Pulp and Paper Products of the Pacific Coast Industry

The Great Diversification of the Western Industry—Everything From Pulp to Paper Doilies—Is Illustrated by This List of Products Manufactured on the Pacific Coast

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THE ADHESIVE PRODUCTS CO., INC.
San Francisco

Gum Sealing Tape
Book Binders' Hollands
Stay Tape
Adhesives, Glues, Gums, Pastes

●

ANGELUS PAPER EXCELSIOR PRODUCTS CO.
Los Angeles

Products

Adding Machine Paper
Cash Register Paper
Tabulator and Teletype Paper
Addressing and Listing Papers
Ticker Tape
Serpentine
Other Roll Paper Specialties
Paper and Wood Excelsior
Paper and Wood Furniture Pads
Embossed Chip Board
Pipe and Tire Wraps

B

BARTRAM PAPER PRODUCTS CO., LTD.
Vancouver, B. C.

Products

Bag Specialties
Candy Bags
Cellophane Bags
Coffee Bags
Garment Containers
Glassine Bags
Greaseproof Specialties
Grocery Bags
Laundry Bags
Millinery Bags
Shopping Bags
Notion Bags

●

BATES VALVE BAG CORPORATION
Converting Plants at Seattle, Washington; Emeryville and Los Angeles, California

Products

Multi-wall Paper Valve Bags
Multi-wall Paper Bags (open-mouth)
Cement, Lime and Plaster Bags, etc.
Sugar and Flour Bags
Chemical Bags
Moisture-proof Bags, etc.
Valve Bag Filling Machines, Open-Mouth Closing Machines and Automatic Scales

J. E. BERKHEIMER MFG. CO.
Tacoma, Wash.

Products

Saturating Felt
Building Paper
Deadening Felt
Chip and Straw Board
Roofing materials
Composition shingles
Asphalt

●

BRITISH COLUMBIA PULP & PAPER CO., LTD.
Office, Vancouver, B. C.
Mills, Port Alice and Woodfibre, B. C.

Products

Bleached and Unbleached Sulphite Pulp
Wood Cellulose for Cellophane and Rayon Manufacture
Refined Sulphite Screenings

●

BROWN PAPER GOODS CO.
Los Angeles and Oakland

Products

Glassine Bags
White Laid Candy Bags
Paper Napkins
Cocktail Napkins

C

CALIFORNIA CONTAINER CORP.
Emeryville, Calif.

Products

Corrugated Egg Cases
Corrugated Fibre Cannery Cases
Corrugated Shipping Containers
Fruit and Vegetable Containers
Dried Fruit Cases
Fruit Pads

●

CALIFORNIA FRUIT WRAPPING MILLS, INC.
Pomona, Calif.

Products

Citrus Fruit Wraps—
Treated and untreated, printed and unprinted, one or two colors, basis weight 10 lbs., M. G. and M. F.
Deciduous Wraps—(Fruit & Vegetable)
Oiled and unoiled, printed and unprinted, copperized, basis weight 10 lbs. and heavier.
Napkins, plain.
Department Store Tissue, flat or quirefolded, 10 lbs. and heavier, M. G. and M. F.
Laundry Tissue, flat or quirefolded, M. G.
Bottle Wraps, printed and unprinted, basis weight 10 lbs. and heavier

Brands

"Pomona Brand" only
Plant Protectors (Sage Hi-Caps)
Toilet Seat Covers
Waxing Tissue and other tissue specialties

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CALIFORNIA-OREGON PAPER MILLS
Los Angeles, Calif.

Products

Wrappings—
Manila, kraft and sulphite
Tissues—
White and colored
Fruit Wraps—
Oiled, plain and printed
Waxing Papers—
Plain and printed
Vegetable Parchment
Specialties

●

CAPITAL ENVELOPE CO., LTD.
Los Angeles

Products

Envelopes, commercial and special
Glassine Bags, plain and printed

●

CARPENTER ENVELOPE COMPANY
Division of Carpenter Envelope Co.
Los Angeles

Manufacturers

Products

Complete line of Envelopes

●

CENTRAL FIBRE PRODUCTS CO.
(Formerly Colorado Paper Products Co.)
Denver, Colo.

Products

Manila Vat-lined Box Boards
Book Vat-lined
News Vat-lined
Test Liner
Test Chip
Pasted Chip
Container Stocks
Sheathing
White Blanks
Colored Folding Box Boards
Set Up Box Boards
Plain Chip, Rolls and Sheets
Pulp Wall Boards

CERTAIN-TEED PRODUCTS CORP.
Richmond, Calif.

Products

Roofings—
- Mineral Surfaced Shingles
- Mineral Surfaced Roll Roofings
- Smooth Surfaced Roll Roofings

Felts and Building Papers—
- Asphalt felt, 15, 20 and 30 lb.
- Saturated and coated insulating
- Asphalt sheathing
- Building insulator
- Tuftite Kraft Sheathing
- Blue plasterboard, 30 and 60 lb.
- Deadening felt, ¾, 1 and 1½ lb.
- Sheathing paper, 20 and 30 lb.
- Asbestos—cement siding
- Unsaturated felt and building papers
- Saturated felt and building papers

Lining Felt—

Brands

Shingles—
- Speedlay, Sealdon, Universal
- Saf-T-Lok, Mul-T-Form
- Certain-teed
- Beaver Vulcanite

Roll Roofing—
- Diamond Point, Super Certainteed
- Certain-teed, Guard

Block Edge—
- Beaver Insulating Board
- Beaver Hard Board
- Genuine Beaver Board
- Bestwall Plaster Board

●

COAST ENVELOPE AND LEATHER PRODUCTS CO.
Los Angeles

Products
- Envelopes
- Book Covers
- Leather Goods

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COLUMBIA RIVER PAPER MILLS
Vancouver, Wash.

Products

Wrappings—
- Bleached and Unbleached butcher and wrapping paper

Newsprint

Fruit Wraps—
- Citrus and deciduous, oiled, plain or printed

Toilet Tissues
Bleached Specialties
Sulphite Bonds
Envelope
Writings

●

CONTINENTAL BAG SPECIALTIES CORP. and ONEIDA PAPER PRODUCTS, INC.
Los Angeles
- Cellophane Bags
- Coffee Bags
- Glassine Bags
- Wax Bags
- Window Bags

●

COOS BAY PULP CORPORATION
Empire, Oregon

Unbleached Sulphite Pulp

CROWN MATCH COMPANY
Los Angeles

Products

Paper Book Matches

●

CROWN WILLAMETTE PAPER COMPANY
Division Crown Zellerbach Corporation
Camas, Wash.; West Linn, Ore.; Lebanon, Ore.

Products

Towels—
- Alfibre—Senior, Junior and Midget (folded)
- Alfibre—(Roll)
- Aristocrat, 2-ply (folded)
- Krafspun—Senior, Junior and Midget (folded)
- Crown Kraft—Midget (folded)
- Radiant—(Roll)

Bakers Bags—
- Crown Satina Sulphite Bread Bags
- Crown Bleached Satina Sulphite Bread Bags

Bleached Sulphite Wrapping—
- Crown Snowfibre

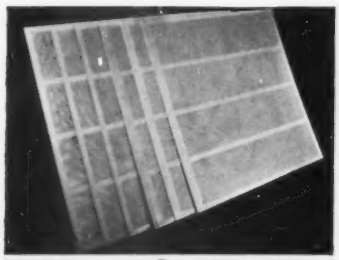
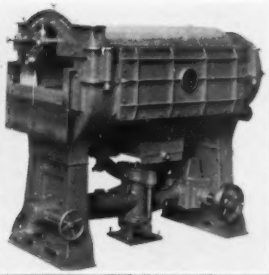
Butcher Papers—
- Crown Alpine Meat Wrap—S. F. White Full Bleached
- Crown Meat Wrap—S. F. Natural
- Crest Meat Wrap—S. F. or W. F. Natural
- Crest Butcher Fibre—W. F. Mottled, Natural
- Crest Moistite Butcher—Dry Finish (Natural), Pink, White
- Crest Veribest Butcher—S. F. Pink

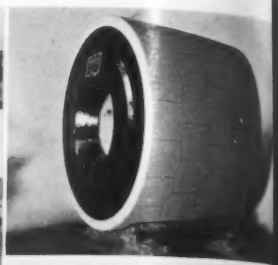
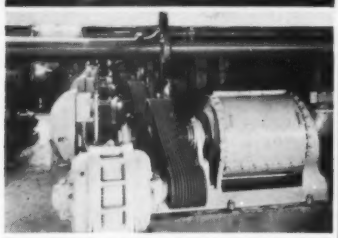
Citrus Tissues — Plain and Printed Crown Citrus

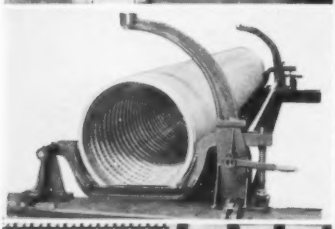
Colored and Striped M. G. Sulphite Wrapping—
- Crown Damask Alfibre—M. G. wide stripe

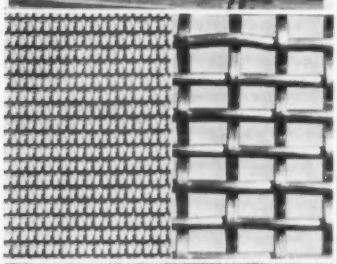
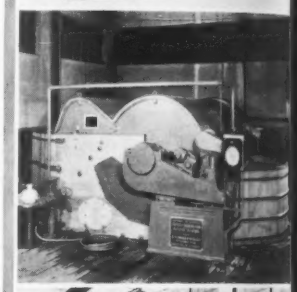
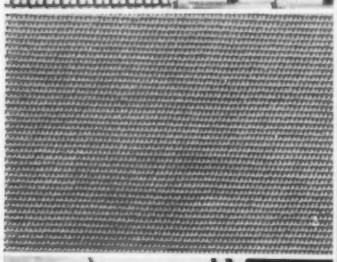
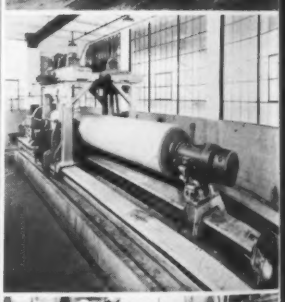
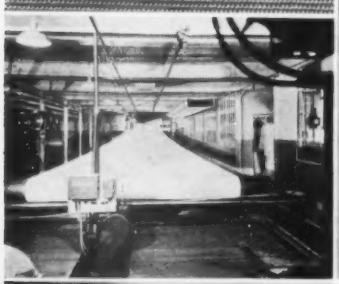
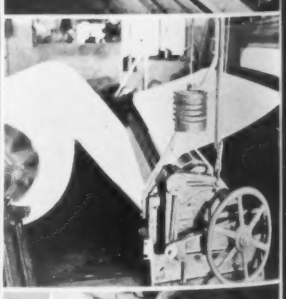
Commercial Wrapping Tissue—
- Crown Snowtex Tissue — Full Bleached White
- Crestex No. 2 Tissue—Unbleached White and Manila

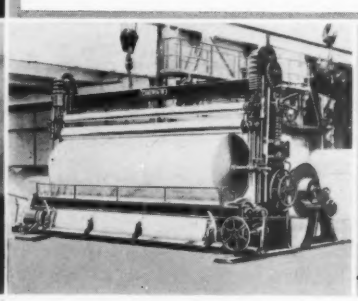
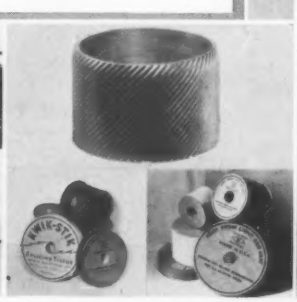
The Excello square paper milk container was introduced on the Pacific Coast early in 1938 by the Gold Star Creameries of Everett, Washington » » » The bleached sulphite board for these containers is manufactured by Fibreboard Products, Incorporated, of Port Angeles, Washington » » » As the paper milk container develops the board required will increase to important tonnage.



Pacific Coast Supply Company

SAN FRANCISCO • PORTLAND • SEATTLE

Representing the Foremost Manufacturers

Calco Chemical Co., Inc.
California Cotton Mills Co.
Cameron Machine Co.
Eastwood-Nealley Corpn.
Farrel-Birmingham Co., Inc.
Heller & Merz
F. C. Huyck & Sons
E. D. Jones & Sons Co.
Charles Mundt & Sons
Norton Company
J. J. Plank & Co.
F. W. Roberts Mfg. Co.
Texas Gulf Sulphur Co.
Union Screen Plate Co.

MACHINE CLOTHING
EQUIPMENT
FOR PULP AND PAPER MILLS
SUPPLIES
RAW MATERIALS

— CALL ON US FOR —

Apron Cloth	Gauges	Rope (Cotton)
Beaters	Hand Winches	Screens
Belting & Supplies	Jordans	Screen Plates
Brass and Copper Specialties	Paints & Brushes	Shower Pipes
	Paper Scales	Splicing Tissue
Calenders	Pulpstones	Steam Traps
Canvas	Pulpstone Burrs	Sulphur
Cylinder Moulds	Rewinders	Testing Instruments
Dandy Rolls	Roll Grinders	Valves & Brass Fittings
Dyes	Rolls	Washer Cylinders
Felts & Jackets		Wires and Wire Cloth

Converting Kraft—
Crown Grocery Bag Paper
Crown Envelope Kraft
Crown Gumming Kraft
Crown Asphalting Kraft
Crown Waxing Kraft

Drawing Manila—
Crown Drawing Manila

Envelope Manila—
Crown Envelope Manila

Excelsior Paper—
Crown Tissue Excelsior

Fruit Papers —Plain and Printed—
Crown Satina Fruit Wrap
Crown Alfibre Fruit Wrap
Crown Bleached Alfibre Fruit Wrap
Crownoil Unbleached Alfibre Fruit Wrap
Crownoil Unbleached Alfibre Fruit Wrap
Crown Copperized Alfibre Fruit Wrap
Crown Tomato Wraps—M. G. or M. F.—Pink, White or Manila
Crown Cantaloupe Wrap—Treated Pink or Manila

Grocery Bags—
Crown Kraft—S. O.
Otter, Reliance, Eagle—S. O.
Monarch—Striped M. F. Kraft—S. O.
Bee—Unbleached Sulphite—S. O.
Commander Kraft—Sq.
Pure Fibre—(Unbleached Sulphite) —Sq.

Gummed Tape—
Crown Gummed Tape
Crest Gummed Tape

Ham Wraps—
Crown Ham Wraps

Kraft Wrapping—
Crown XX Monarch Kraft, Brown, M. F. Plain
Crown XX Corduroy Kraft, Brown, M. F. Striped
Crown Kraft—Natural Brown, M. F. Plain
Crown Kraft—Silvertone Gray, M. F. Plain
Crown XX Damask Kraft—Golden Brown, M. G. wide stripe
Crown Damask Kraft — Natural Brown, M. G. wide stripe
Crown Damask Kraft — Silvertone Gray, M. G. wide stripe
Crown Satina Kraft—Natural Brown, M. G. narrow stripe
Crown Satina Kraft — Silvertone Gray, M. G. narrow stripe

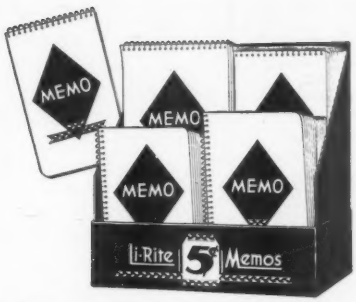
Manifolding Paper—
Crown Manifolding Tissue

Manila Wrapping—
Crown Manila
Crown Manila (Bakers 20 lb.)

Mill Wrappings—
Crown Mill Wrapper

Napkins—
Embossed, Genuine Crepe, Semi-crepe, Full Bleached Napkins
Fixture and Special-fold Napkins
Package Napkins — Full Bleached and colors

Newsprint—
Standard News (rolls)
Commander News (sheets)
Crown Printers Roll News
Crown Printers Sheet News
Crown Flat-bed Sheet News
Crown Pink, Green and Peach News



Li-Rite coil wire bound note books are manufactured by the Everett Pulp & Paper Company of Everett, Washington.

Odd Bags—
Crown Merchandise Bags
Crown Notion Bags
Crown Millinery Bags
Crown Garment Bags
Crown Banana Bags
Crown Barrel Bags
Crown Poultry Bags
Crown Sugar Bags
Crown Nail Bags
Crown Confectionery Bags
Crown Laundry Bags
Crown Shopping Bags

Roll Toilet Tissue—
10-Lb. Fourdrinier Tissue—750-1000 and 2000 count
10-Lb. Fourdrinier Tissue—650-750-1000 and 2000 count
10-Lb. Fourdrinier Notched Oval Tissue — 400 count — 7 and 8-oz. rolls
12-Lb. Full Bleached Tissue—1000 count
12-Lb. Unbleached — Semi-crepe —650 count
16-Lb. Unbleached — Semi-crepe—4-5-6-7 and 8-oz rolls
Full Bleached Genuine Water Crepe —6-7-8 oz. rolls
Semi-Bleached Genuine Water Crepe —6-7-8-oz. rolls

Specialty Bags—Plain and Printed—
Crown Raisin, Prune, Peach and Fig Bags

Raisin Tray—
Crown Sunbeam Raisin Tray

Salesbook Manilas—
Crown Salesbook Manila

Sulphite Box Liners—
Crown Water Crepe Box Liners —Pink, Blue and White
Crown Machine Crepe Box Liners—Pink, Blue and White
Crown Uncreped Box Liners—Pink, Blue and White

Sulphite Wrapping—
Crown Manila
Crown Alfibre
Crest Alfibre

Tire Wraps—
Crown Tire Wraps

Waxing Sulphite
Crown Opaque Bread Wrap
Crown Bleached Waxing Sulphite

Waxing Tissue—
Crown Snowtex Waxing Tissue
Crestex Waxing Tissue

Waxed Papers—
Crown Waxfibre
Crest Waxfibre
Florist Tissue
Waterproof Paper (Laminated)—
Crown Laminated Kraft

●

CROWN WILLAMETTE PAPER CO.
Division Crown Zellerbach Corporation
Los Angeles
Products
Self-opening Grocery Bags (Otter Kraft)
Fruit Wraps, plain and printed

●

CROWN ZELLERBACH CORP. NATIONAL PAPER PRODUCTS CO. DIVISION
Port Townsend, Wash.
Products
.016 Kraft Liner Board
.030 Kraft Liner Board
.016 to .038 Suit Box Board
Cement Bag Paper
Grocery Bag Paper
Sack Paper
Kraft Wrapping Paper

●

CRYSTAL PAPER SERVICE CORP.
Los Angeles
Products
Paper Drinking Cups
Paper Souffle Cups
Paper Food Containers
Water Bottle Caps

D

HAL DE WAIDE PRODUCTS
Portland, Ore.
"Slip Away" Toilet Seat Covers
Distributed by Consolidated Cover Co.

E

ENVELOPE MANUFACTURING CO.
Los Angeles
Products
All types of Envelopes

●

EVERETT PULP & PAPER CO.
Everett and West Tacoma, Wash.
Products
Book Papers—
Everett English Finish Book, White, India, Yellow, Blue, Pink, Green, Orange
Nautilus E. F. Book, White
Symphony E. F. Book, White
Symphony Super Book, White
Masterpiece Book White
Everett Super Book, White, India
Nautilus Super Book, White
Everett Art Book (English Finish) White, India
Everett Monastery Text (Eggshell), White, India
Nautilus Eggshell, White
Anchor E. F. Book, White
Binnacle E. F. Book, White
Ensign E. F. Book, White
Everett Super Rotogravure, White
Everett Soap Wrapper (Alkali Proof), White
"Hard-Wear" Catalog White
Everett Non-Fading Poster, White, Orange

TO MAKE BETTER FELTS FOR YOU

. . . KENWOOD Goes Wool Gathering 'Round the World

More than three billion pounds of wool are clipped in the world each year. But only a tiny fraction of the world's supply meets Kenwood's exacting requirements. So, in Australia, New Zealand, and South Africa, in England and Ireland, in Brazil and the Argentine, and in a few places in the United States—wherever the very best wools are produced—Kenwood representatives are constantly in search of wools suitable for Kenwood Felts.

To maintain uniformity in the quality of Kenwood Felts, it is necessary to maintain a similar uniformity in the quality of wools used. So Kenwood purchases wool from known sources only, whenever those sources have a clip to offer. Huge stocks of these wools are carried in the Kenwood warehouses at all times. This assures you that, whatever the requirements of your felts may be, the right wools will always be available to make them.

KENWOOD WOOL PRODUCTS

Pacific Coast Representatives

Pacific Coast Supply Company

Pittock Block—Portland, Ore.
708 White Bldg.—Seattle, Wash.
343 Sansome St.—San Francisco, Cal.

F. C. HUYCK & SONS

KENWOOD FELTS · ALBANY, N. Y.

Label and Lithographic Papers
- Litho Poster, White
- Everett M. F. Label, White—
- Everett Super Label, White—Regular
- Everett Super Label, White—Tub Sized
- Everett Super Label, White—B Finish—Regular
- Everett Super Label, White—B Finish—Tub Sized

Offset Papers—
- Biplane Book (No. 1 Offset) White—Tub Sized
- Twinphase Book (No. 2 Offset) White—Tub Sized

Writing Papers—
- Everett Railroad Writing (O. P. S.) White, Amber, Blue, Pink, Green
- Everett Penmanship Writing (M Grade) White
- Everett No. 4 Opacity Bond, White Canary, Buff, Blue, Pink, Green, Goldenrod
- Everett Stadium Bond, White, Canary, Buff, Blue, Pink, Green, Goldenrod

Mimeograph Papers—
- Everett Signwell Mimeo (152X Hard Sized) Whte Wove, Blue, Pink, Canary, Buff, Green, Goldenrod
- Everett Laid Mimeo (Slack Sized) White, Blue, Pink, Canary, Buff, Green, Goldenrod
- Everett No. 4 Mimeo Bond (Hard Sized) White, Wove
- Pensign Laid Mimeo (Slack Sized) White
- Pensign Wove Mimeo (Hard Sized) White, Blue, Pink, Canary, Buff, Green, Goldenrod
- Binnacle Laid Mimeo (Slack Sized) White
- Binnacle Wove Mimeo (Hard Sized) White

Tablets and Stationery—
- Li-Rite Coil Wire Bound Notebooks, Composition Books, and Commercial Stationery
- Tablets, Pads, Composition Books, Notebooks and Fillers
- Opaque School Papers
- Drawing Papers
- West Trade Commercial Stationery
- Federal Reserve Perforated Pads
- West Trade Columnar Pads
- Adding Machine and Teletype Paper

F

FIBREBOARD PRODUCTS, Inc.
Port Angeles, Sumner, Wash.
Los Angeles, Stockton, Antioch, Calif.

Products

Boxboards—
- Boxmakers Grades
- Tagboard
- Bristol Board
- Binders' Board
- Kraft and Jute Liners
- Corrugating, Rag, Straw and Sulphite Board

Paper Cans: Tubes—
- Paper Cans
- Coffee Cans
- Special Cottage Cheese Cans
- Drug Cans
- "White-Tite" Cans
- Double "White-Tite" Cans
- Paper Caps and tin ends of all descriptions
- Mailing Tubes
- Telescope Mailing Tubes
- Screw Top Mailing Cases
- Kraft Tuck-end Mailing Tubes
- Fluted Ice Cream Dishes

Egg Packing—
- 6x6 Fillers
- Egg Cartons, 3x4 and 2x6
- "Cushion - Pak" Egg Cartons, 3x4 and 2x6
- Egg Case Flats

Folding Cartons
- Raisin and Dried Fruit Cartons
- Tea and Coffee Cartons
- Cereal Cartons
- Display Cartons
- Butter and Ice Cream Cartons
- Miscellaneous Folding Cartons

Corrugated Products—
- Corrugated Rolls
- Photo Mailers
- "Super-Test" Corrugated Shipping Cases
- Milk Cases
- Coffee Cases
- Beer Cases
- Wine Cases
- Glass Cases
- Miscellaneous Cases
- Cereal Cases
- Butter Cases
- Display Stands

Solid Fibre Products—
- "Super-Test" Solid Fibre Shipping Cases
- Fruit and Vegetable Cases
- Cannery Cases
- Dried Fruit Cases
- Salmon Cases
- "Re-file" Cases
- Butter Cases
- Miscellaneous Cases
- Cereal Cases
- Soap Cases
- Liquor Cases

Pails—
- Food Pails
- Ice Cream Pails

Commodity Folding Boxes—
- Cake Boxes
- Cake Circles
- Candy Boxes
- Florist Boxes
- Clothing Boxes
- Laundry Boxes
- Hat Boxes
- Millinery Boxes
- Collar Bands

Fruit Packing—
- Berry Baskets
- Liners—Corrugated and Chip
- Pads—Corrugated and Indent
- Collars
- Fig Trays
- Fig Partitions
- Fruit Baskets
- Peach Shims
- Orange Shims
- Basket Shims
- Shims—Plain and Combination
- Basket Circles
- Tree Bands
- Labels

●

FIELD-ERNST ENVELOPE CO.
San Francisco

Products

Printed and Plain Business Envelopes for mailing and filing

●

FIR-TEX INSULATING BOARD CO.
St. Helens, Ore.
- Insulating and Acoustical Board
- Fir-Tex Building Board
- Fir-Tex Ivrykote Sheathing
- Fir-Tex Finish Plan
- Fir-Tex Insulating Lath
- Fir-Tex Insulating Tile
- Fir-Tex Refrigeration Insulation Blocks
- Fir-Tex Roofing
- Fir-Tex Hardboard

●

LLOYD A. FRY ROOFING CO.
Compton, Calif.

Products
- Asphalt Roll Roofing
- Asphalt Slate Surface Shingles
- Slate Roll Roofing
- Rag Felt
- Deadening Felt

ROOFING ASPHALT in paper bags was one of the developments of 1937 » » » The Jaite Company's plant at Wilmington, California, developed this new market for multiwall paper bags » » » St. Helens Kraft is used by The Jaite Company.

"Quality is Economy"

STEBBINS *Linings*

ACID
RESISTANT
LININGS

FOR EVERY
PULP and
PAPER MILL
APPLICATION

Stebbins Engineering Corporation

Textile Tower • SEATTLE

G

GATES PAPER CO., LTD.
Los Angeles

Products

Round Fibre Cans
Mailing Tubes of all types
Paper Cores

•

GRAYS HARBOR CORPORATION
Hoquiam, Wash.

Products

Sulphite Bonds
Mimeograph
Manila
Writing
Offset
Specialties

H

HAWLEY PULP & PAPER CO.
Oregon City

Products

Newsprint—
- Standard Shade and Blue White Rolls and Sheets

Poster Paper
Drawing Manila—Standard Colors
Sulphite Wrapping—
- Cheviot Wrapping in Blue, Green, Red, Tan and Grey
- Cheviot Bristol in Eight Colors
- Meat Wraps in Bleached, Manila and Cheviot Colors
- Tailors Pattern in Black and Green
- Grocers and Butchers Wrapping
- Bakers Manila
- Macaroni Papers

Sulphite Screenings
Corrugating Boxboard
Deciduous and Soft Fruit Wrappers
Tissue Paper, Bleached and Unbleached
Toilet Tissues in Rolls
Towels, Interfolds and Rolls for Time-Controlled Towl-Craft Cabinets
Grocery Bags
Kraft Wrapping Paper, No. 1 and No. 2
Cheviot Book and Mimeo Paper in Seven Colors
Treated Cheviot Innerwrap

•

EVERETT M. HURST & CO.
Portland

Products

Toilet Seat Covers

I

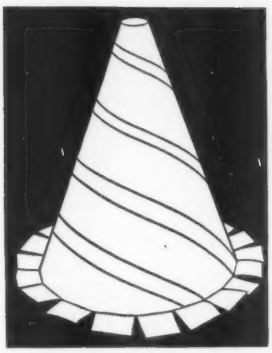
INLAND EMPIRE PAPER CO.
Millwood, Wash.

Products

Newsprint—
- Rolls and Sheets
- White, cream, colors

High Grade News—
- Special halftone and magazine print
- No. 1 Colored Poster

Mimeograph News—
- Laid and wove
- White and six colors
- Sub. 16, 20 and 24



Sage Hi-Caps, strong, cone shaped weatherproof paper plant protectors are manufactured by the California Fruit Wrapping Mills of Pomona, California.

Coarse Papers—
- Car Linings
- Screenings
- Ham Wrap
- Sheathing

Bond—
- No. 4 Bond in white and colors
- Mimeo Bonds

Ledger—
- No. 4 Ledgers

Book—
- Eggshell Book
- English Finish Book
- M. F. Book

Envelope—
- Fibretint Envelope
- White Wove Sulphite Envelope

Wrapping—
- Fibretint Wrapping
- Empire Butchers Bleached
- Butchers Sulphite
- Fibretint Butchers
- Butchers Manila
- Inland Kraft Wrapping

Sulphite and Groundwood Specialties—

J

THE JAITE COMPANY
Jaite, Ohio
Plants: St. Helens, Ore. Wilmington, Cal.
Offices: San Francisco

Products

Multiwall Sewn Paper Bags

•

JOHNSON ENVELOPE CO.
San Diego, Calif.

Products

Catalog Envelopes
Expanding Envelopes
File Folders
Filing Envelopes
Mailing Envelopes
Merchandise Envelopes
Photo Mailers
Tag Envelopes

•

JOHNS-MANVILLE SALES CORPORATION
San Francisco

Products

J-M Asbestos Shingles—
- Dutch Lap, Hexagonal
- No. 35 American Method

J-M Asbestos Sidings
- Cedargrain
- Texture Shingles

J-M Rock Wool Home Insulation Batts—
- Type B—Ful-Thik
- Type B—Semi-Thik
- Type C—Junior

J-M Roofing Materials
- Built-Up Asbestos & Rag Felt Roofings
- Asphalt Shingles and Sidings
- Smooth Surfaced Roll Roofings
- Slate Surfaced Roll Roofings
- Building Papers—Roofing Felts
- Roof Coatings and Putties

J-M Industrial Building Materials
- J-M Waterproofing Materials
- J-M Celite for Concrete

J-M Power Products
- Refractories
- Miscellaneous Power Products
- Transite Flue Pipe
- Transite Water Pipe
- Asbestos Paper
- 85% Magnesia Insulation
- Low Pressure Insulations
- High Pressure Insulations
- Insulating Cements
- Insulating Powders
- Insulating Brick

Filter Aids & Mineral Fillers

L

W. P. LASS COMPANY, INC.
Santa Cruz, Calif.

Products

Convert Paper into Floral Supplies—
- Pots and Vases

•

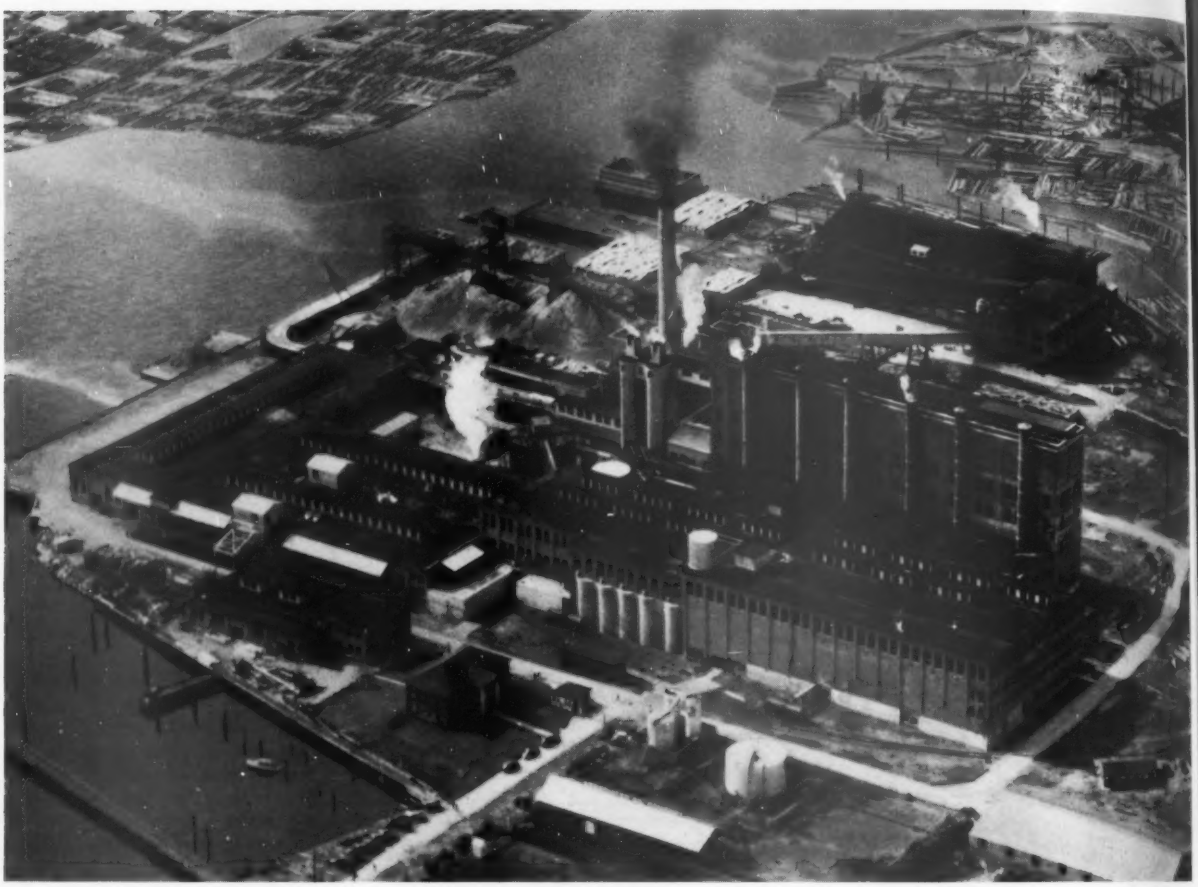
LONGVIEW FIBRE COMPANY
Longview, Washington

Products

Board—
- Sulphate Test Liner
- Sulphate Corrugating Board
- Kraft Boxboard

Paper—
- Plain and Watermarked Machine Glazed Kraft Wrapping
- Plain and Watermarked Machine Glazed Kraft Bag Papers
- Plain and Watermarked Machine Glazed and Machine Finished Bleached Kraft
- Machine Glazed Envelope Kraft Papers
- Machine Glazed and Fourdrinier Tire Wrap
- Fourdrinier Machine Finished Wrapping Papers
- Fourdrinier Machine Finished Butchers' Papers
- Fourdrinier Machine Finished Bag Papers

Bags—(Plain or Watermarked, Machine-glazed or Machine Finished, Printed or Unprinted)
- Grocery Bags
- Millinery and Notion Bags
- Garment Bags
- Barrel Bags
- Poultry Bags
- Nail Bags



HIGH GRADE
BLEACHED
SULPHITE PULP

SOUNDVIEW PULP COMPANY

EVERETT, WASHINGTON

Laundry Bags
Shopping Bags
Bread Bags
Confectionery and Pop Corn Bags
Sugar Bags
Raisin Bags
Bag Specialties

Containers—
Solid Fibre Shipping Containers
Corrugated Shipping Containers

Folding Boxes—
Clothing Boxes
Laundry Boxes
Cake Boxes
Millinery Boxes
Folding Box Specialties

Waxed Paper Products—
Waxed Papers
Waxed Butter Cube Bags
Waxed Specialties

Asphalted Paper Products—
Duplex Waterproof Kraft Sheathing Paper
Duplex Waterproof Kraft Car Liner
Duplex Waterproof Kraft Egg Crate Liner Bags
Duplex Waterproof Kraft Poultry Box Liner Bags
Asphalted Specialties

Crepe Paper Towels & Creped Specialties

●

L. A. ENVELOPE MANUFACTURING CO.
Los Angeles

Products

Business Envelopes
Catalog Envelopes
Special Size Envelopes

●

LOS ANGELES PAPER BAG CO.
Los Angeles

Products

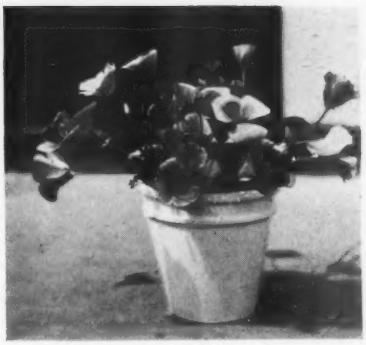
Bag Printing, all kinds
Glassine Bags
Grocery Bags
Garment Bags
Gum Tape
Napkins
Notion and Millinery Bags
Pliofilm Bags, flat, square and satchel bottom

●

LOS ANGELES PAPER MFG. CO.
and, or El Rey Products Co.
Los Angeles

Products

Asphalt Roofing
Asphalt Slate Surfaced Shingles
Composition Shingles
Saturated Lining Felt
Saturating Felt
Deadening Felt
Red and Gray Duplex Sheathing
Car Linings
Industrial Floorings
Dry Felts
"Metalic" Surfaced Roofing



Paper Flower Pots is the product of W. P. Lass's plant in Santa Cruz, California.

N

NATIONAL CARD, MAT & BOARD COMPANY
Los Angeles

Products

Artists Illustration Board
Backing Board
Embossed Boards
Linen Finish Boards
Calendar and Photo Mounts
Card and Mat Board Products
Coated Board
Cover Papers
Display Cases and Easels
Greeting Card Stock
Illustration Boards and Bristol
Paper Board Specialties
Pasted Board
Picture Backing Board
Poster Board and Paper
Box Covered Papers
Checkbook Cover
Cover Paper Decorated
Cover Paper Embossed
Foil Papers
Melton Mounts
Memo Book Cover
Mount Boards

O

OREGON PULP & PAPER CO.
Salem, Ore.

Products

White and Colored Bond
Writings
Envelope
Ledger
Mimeograph
Glassine, greaseproof—
Bleached and unbleached
Specialties
Manifold
Parchment

●

OWENS-ILLINOIS PACIFIC COAST COMPANY
San Francisco

Products

Corrugated Shipping Cases (1)
Corrugated Fruit Box Pads
Liners and Collars (2)

Brands
(1) OnIzed
(2) No-Bruz

P

PACIFIC COAST ENVELOPE CO. DIVISION
San Francisco

Products

Printed and plain envelopes for mailing and filing

●

PACIFIC COAST PAPER MILLS
Bellingham, Wash.

Products

Toilet Tissue—
Bleached, Manila and unbleached white roll
Interfolded and Flat Pack

Napkins—
Colored, embossed
Flat, quarter-fold
Dispenser fold

Towels—
Bleached Kraft, unbleached
Sulphite and sulphate Towels

Brands
M. D. Tissue, etc.

●

PACIFIC MILLS, LIMITED
Ocean Falls, B. C.

Converting Plant, Vancouver, B. C.
Newsprint
Kraft paper, M. F. and M. G. plain and striped
Butchers Manila
Sulphite tissues
Toilet tissue
Napkins
Fruit Wraps
Towels
Bread Wraps
Printed Wrapping
Plain and printed waxed papers
Solid Fibre Shipping Cases

●

PACIFIC NORTHWEST PAPER MILLS, Inc.
Portland

Safety Paper
Adwrap Decorated Wrappings
Specialties

●

PACIFIC STRAW PAPER & BOARD COMPANY
Longview, Wash.

Products

Combination Board
Plain Chip Board
Solid News
News and Manila Lined
Bleached Manilas
Mist Gray and Colored Boards
Container Board
Test Board
White Patent Coated Board

Solid Pulp Board
Egg Case Filler
Tag Boards
Folding Boxes

●

PACIFIC WAXED PAPER CO
Seattle, Wash.

Products

Printed Waxed Paper—
- Bread Wrappers
- Candy Bar Wrappers
- Frozen Fruit & Vegetable Wrappers
- Transparent Cake Wrappers
- Adsealit Bands

Plain Waxed Paper
- Waxed Glassine
- Transparent Cake Wrappers
- Vegetable Crate Liners
- Delicatessen Paper
- Colored Twisting Papers

Bags—Plain and Printed
- Glassine—Waxed and Unwaxed Cellophane
- Window Bags
- Dry Waxed Bags
- Laminated Bags
- Specialty Bags of All Kinds

Tredonia Moistureproof Show Case Boxes with Cellophane windows for doughnuts, sweet doughs, layer cakes, and bakery products of all kinds

●

PALMER-LUSE ENVELOPE CO.
606 E. 12th St.
Los Angeles

Products

Greeting Card Envelopes
Wedding Announcement Envelopes
Baronial Type Envelopes
Commercial Envelopes

●

PAPER SPECIALTY CORP.
Portland

Products

Sani-Tray Brand Wax Lined Food Trays
Shamrock Brand Wax Lined Food Trays

●

PAPER SUPPLY CO.
Los Angeles

Products

Resale Rolls of—
- Shelf Paper
- Tissue Paper
- Holly Paper
- Decorative Wrappings
- Cellophane

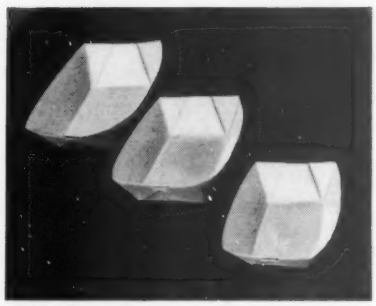
Distributors:
- Cellophane Ribbons
- Glassips Cellophane Soda Straws, all colors for hot or cold beverages

●

PARAFFINE COMPANIES, INC.
Emeryville, Calif.

Products

Mineral-Surfaced Shingles
Permanite Roof Slabs



Paper dishes made by the Paper Specialty Company of Portland, Oregon.

Roll Roofings
- Mineral-Surfaced Roofings
  - a. P & B
  - b. Malthoid
  - c. Durable
- Smooth-Surfaced
  - a. P & B
  - b. Malthoid
  - c. Durable
  - d. Santo
  - e. Paramount
  - f. Raintite

Building Papers
1. Urban Sheathing
2. P & B Light Bldg. Paper
3. Doublekraft
4. P & B Heavy Bldg. Paper
6. 15-lb. Felt
7. Pabcotite

Commodities
1. Asphalt Roofing Felt
2. Asphalt Sheathing Felt
3. Deadening Felt
4. Blue Plaster Board
5. Rosin-Sized Sheathing

Roof Coatings and Plastics
1. Vitalized Fibre Roof Coating
2. Plain Fibre Roof Coating
3. XXX
4. Pabcobond No. 1072
5. Hydroseal
6. Lap Cement
7. Gutter Paint
8. Floatine

Car Linings
Mulch Papers
Pipe Wrappings
Fibre Wallboards
Rock Wool
"Grip - Tread" Mastipave Industrial Floorcovering

Brands

Pabco Brands on all

●

PATERSON PACIFIC PARCHMENT COMPANY
San Francisco

Patapar Vegetable—Plain & Printed
Durapak Insoluble Crate Liner—Plain & Printed
Patapar Cookery Parchment
Parchkin Art Parchment
Patapake & Patawite Printing Papers
Waxed Ice Cream Liners
Waxed Paper

PERFECTION TWINE CO.
Camas, Wash.

Specialty Bags—
- Mattress Bags
- Casket Covers
- Multi-wall Bags
- Furniture Bags, etc.

Paper Twines and Cords—
- Seaming Twines
- Fleece Twines
- Handle Cord Twine, etc.

●

PIONEER DIVISION THE FLINTKOTE COMPANY
P. O. Box 120, Arcade Annex
Los Angeles, Calif.

Products

Roofing Division

Rag Roofing—Dry Felt, all weights, 12 to 108 lbs.
Asphalt Yosemite Mineral Surfaced Shingles
Asphalt Emulsion
Rosin-sized Sheathing
Blue Plasterboard
K-B Asphalt Sheathing
Insulating Papers
Asphalt Products, Paints, etc.
Mulch Papers
Pipe Wrap Coverings
Car Lining Papers
Duplex Kraft Sheathing
Asphalt Saturated Felt

Box Board & Container Division

Pioneer Super White Patent Coated Box Board
Pioneer Super Manila
Pioneer Super Mist Grey and all colors
Pioneer Super Suit Box Boards
Pioneer Super Poster Card Board
Pioneer Black Ebonkote Board
Pioneer Show Print Board
Pioneer Solid News Board
Pioneer Kraft Board Liners
Pioneer Jute Board Liners
Pioneer Pasted Chip
Pioneer Colored Manila Lined Boards
Pioneer Bleached Manila Lined Boards
Pioneer Book Lined Chipboard
Pioneer News Lined Chipboard
Pioneer Shirt Boards
Pioneer Division Boards
Pioneer Fruit Box Liners
Pioneer Fruit Box Shims
Pioneer Kraft Metal Lath Backing
Pioneer Plaster Board Liner (kraft)
Pioneer Corrugated Containers
Pioneer Corrugated Beer Cases
Pioneer Corrugated Canners Cases
Pioneer Corrugated Shipping Cases
Pioneer Corrugated Export Cases
Pioneer Corrugated Display Cases
Pioneer Corrugated Display Stands
Pioneer Single Faced Corrugated Rolls

●

POMONA PAPER PRODUCTS, INC.
Pomona, Calif.

Waxed Paper Rolls in Cutter Edged Boxes

●

POWELL RIVER CO., LTD.
Powell River, B. C.

Products

Newsprint
News Grade Sulphite Pulp

Read how Shell put an end to this mill's continual fan bearing failures*

A LARGE West Coast lumber company's kiln for curing expensive lumber was a nightmare to the Super.

Hot, damp, filled with acid fumes from the green lumber, bearing breakdowns happened far too often here on the fans used to circulate air. No bearing lubricant these people tried stood up in this "nightmare" of humid acid vapors.

Finally, the local Shell man was called in. He recommended the correct grade of Shell Mya Grease . . . *a stock anti-friction bearing lubricant that had been tried and proven successful under similar mill conditions elsewhere.*

This kiln has been in continuous operation ever since . . . without a shutdown from bearing lubrication failures!

Shell's success with problems like this is due to a real understanding of mill lubrication . . . and a line of *better* lubricants resulting from this practical knowledge of West Coast mill problems.

Call in Shell if you are facing a lubrication problem. Phone nearest Shell office. Or write: Industrial Lubricants Division, Shell Oil Company, Shell Building, San Francisco, California.

*An actual case history from Shell's files

SHELL MILL LUBRICANTS

SHELL

ENGINEERED FOR YOUR 4 BASIC OPERATIONS:

POWER DEVELOPMENT	SPEED CHANGING	POWER DISTRIBUTION	POWER OFFTAKE

PUGET SOUND PULP & TIMBER COMPANY
Anacortes and Bellingham, Wash.

Products
Unbleached Sulphite Pulp

R

RAYONIER INCORPORATED
San Francisco and Seattle

Mills at:
Fernandina, Florida
Hoquiam, Washington
Port Angeles, Washington
Shelton, Washington
Tacoma, Washington

Products
Paper Pulp—
Bleached Sulphite, Bond Grade
Dissolving Pulps—
Rayonier
Rayonier, Hicolor
Purayonier
Paper—
Management Bond

S

ST. HELENS PULP & PAPER CO.
St. Helens, Ore.

Products
Bleached and Unbleached Kraft Paper:
Wrapping—both M. F. & M. G.
Envelope
Gumming
Waxing
Bag
Butchers
Tire Wraps—Printed or Plain
Fruit and Canteloupe Wraps
Box Liners
Toweling
Tissue
Waxed Paper
Towels—Interfolded & Rolls

●

ST. REGIS KRAFT CO.
Tacoma, Wash.

Products
Sulphate Pulp — Bleached and Unbleached

●

SALINAS VALLEY WAX PAPER CO.
Salinas, California

Waxed Crate Liners
Waxed Specialties
Asphalt Laminated Kraft
Car Liners
Building Paper
Laminated Specialties

●

SANI-GARD COVER CO.
Los Angeles
Plants at Portland, Ore., and Los Angeles

Products
Paper Toilet Seat Covers

SCHMIDT LITHOGRAPH CO.
San Francisco

Products
Corrugated Shipping Cases
Fruit Box Pads and Liners
Corrugated Advertising Cutouts
Coated Papers for Labels

●

SHERMAN PAPER PRODUCTS CORP.
Los Angeles

Products
Baking Cups
Fluted Cake Pan Liners
Die Cup Liners
Labels
Printed Gummed Cake Bands
Cake Rounds
Corrugated Glassine Products
Embossed and Printed Glassine Doilies
White Waxed Corrugated Circles
Spruce Cake Rounds

●

SIDNEY ROOFING & PAPER CO., LTD.
Victoria, B. C.

Products
Box Board
Test Board
Felts
Building Paper
Roofing
Bottle Wrap
Asphalt Shingles
Groundwood Pulp

SOUNDVIEW PULP CO.
Everett, Wash.

Products
Bleached Sulphite Pulp

●

SPAULDING PULP & PAPER CO.
Newberg, Ore.

Products
Unbleached Sulphite Pulp

T

THE TISSUE CO.
Camas, Wash.

Products
Bulk and Packaged Napkins

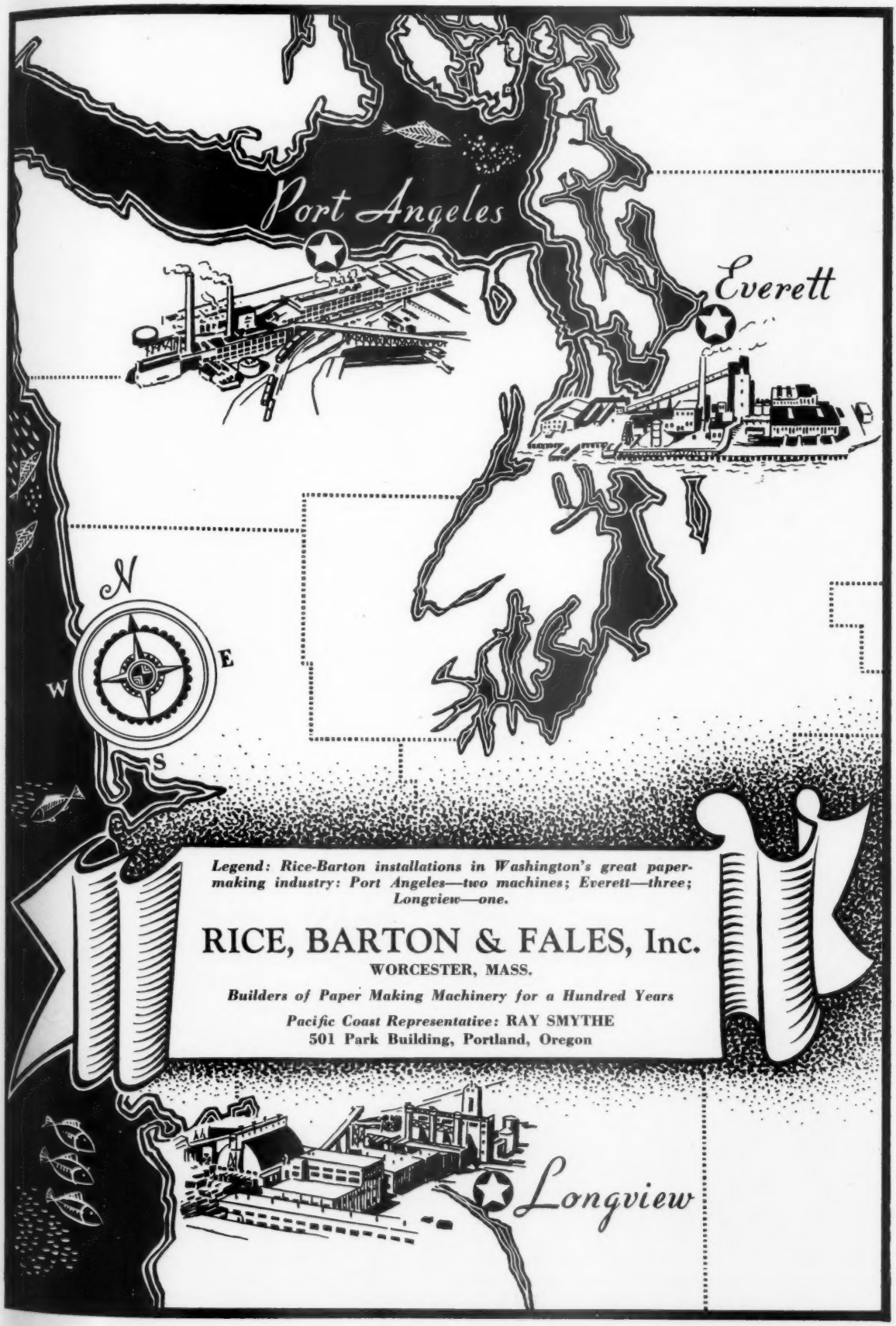
U

UNION BAG & PAPER CORP.
Los Angeles

Converting Plant

Products
Grocery Bags, Sulphite and Kraft.
Glassine Bags.
Candy Bags.
Notion and Millinery.
Waxed Bags.
Coffee Bags, Plain and Fancy Printed.
Nail Bags.
Transparent Cellulose Bags (cellophane and sylphrap).
Egg Crate Liners.
Coffee Bag Shipping Containers.
Special Bags of Varied Nature.
Printed Bags—one to 5 colors.
Shopping Bags
Carry Bags
Poultry Bags

PACKAGED COAL made its appearance in Portland, Oregon, during the past winter » » » Pressed into cubes and then six are wrapped in heavy paper and dried in a kiln » » » Marketed under the name "Col-Pacs."



Legend: Rice-Barton installations in Washington's great paper-making industry: Port Angeles—two machines; Everett—three; Longview—one.

RICE, BARTON & FALES, Inc.

WORCESTER, MASS.

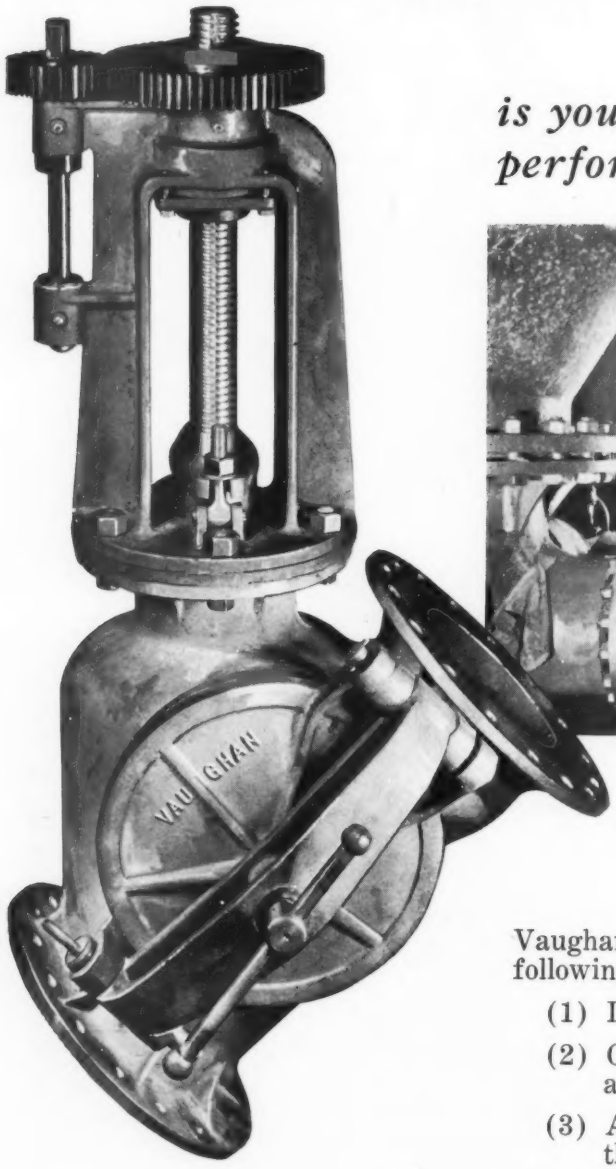
Builders of Paper Making Machinery for a Hundred Years

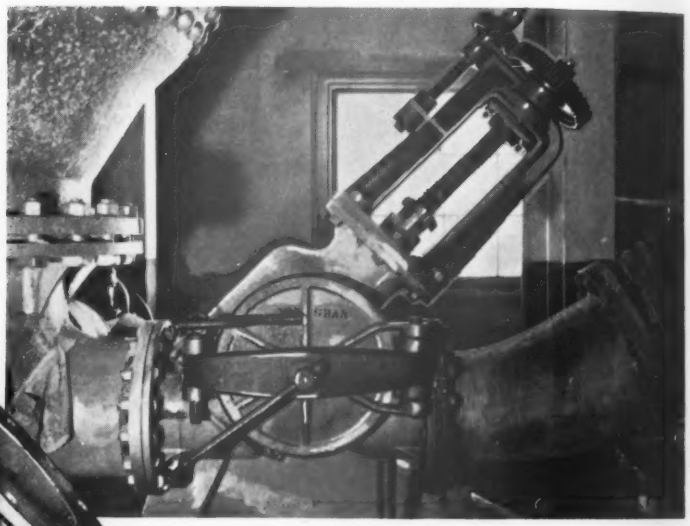
Pacific Coast Representative: RAY SMYTHE
501 Park Building, Portland, Oregon

The name "Vaughan" on Stainless Steel valves . . .

•

is your assurance of performance and dependability





A Vaughan 10-inch, stainless Blow Valve in operation in one of the large Sulphite Mills of the Northwest. This valve, operating under exacting conditions, has proven its ability to perform properly under all circumstances.

Vaughan solicits your business on the basis of the following:

(1) Long experience in casting stainless alloys.

(2) Organization capable of precise co-ordinatiton.

(3) Ability to collaborate understandingly with the purchaser.

Vaughan engineers have been very successful in motorizing stainless valves and thereby cutting operating costs. Let us discuss this with your engineers. Such problems are very welcome at the Vaughan plant.

★ ★ ★

VAUGHAN *Precision made* **VALVES**

VAUGHAN MOTOR COMPANY • Ph. EA 1108 — 835 S. E. MAIN • PORTLAND, OREGON

Flour Bags
Standard Sacks—Single Wall or Duplex

•

U. S. GYPSUM CO.
Southgate, Calif.

Products

U. S. G. Asphalt Shingles
Thatch Point Roll Roofing
Star Slate Roofing
Star Corrugated Roofing
Starco Roofing
Cascade Roofing
Gold Star Roofing
U. S. G. Asphalt Saturated Felts
U. S. G. Building Felt
U. S. G. Saturated Sheathing
Starkote Coated Felt
Kraft Sheathing Paper
Deadening Felts
Duo-Color Sheathing Paper
Blue Plasterboard
Asbestos Felts
Base Sheets
White and Black Top Cap Sheets
U. S. G. Roof Coatings and Cement
U. S. G. Asphalt Emulsions

•

U. S. TISSUE CONVERTING CO.
Los Angeles

Products

Tissue Garment Bags
Clothing Boxes
Millinery Boxes

V

VANCOUVER KRAFT MILLS
Port Mellon, B. C.

Unbleached Sulphate Pulp

•

VOLNEY FELT MILLS
Compton, Calif.

Products

Dry Roofing Felt

W

WASHINGTON PULP & PAPER CORPORATION
Port Angeles, Wash.

Products

Newsprint

•

WEST COAST PAPER PRODUCTS CO.
Portland, Oregon

Products

Bottle Caps

WESTERN MANUFACTURING & SUPPLY CO., INC.
Los Angeles

Products

Printed Gummed Sealing Tape
Special Gummed Tape in rolls
Gummed Labels, Printed and Perforated, in sheets and rolls
Eveready Sealers

•

WESTERN PAPER CONVERTING COMPANY
Salem, Ore.

Products

Adding Machine Rolls
Glassine and Confectionery Bags
Candy Bags
Cellophane Bags and Specialties
Cash Register Rolls
Aluminum Foil, printed
Greaseproof Specialties
School Papers
Wrapping Specialties
Note Books

•

WESTERN PAPER PRODUCTS CO.
San Francisco

Products

Special Bags of All Kinds
Mattress Bags
Furniture Covers
Casket Covers
Machinery Covers
Transparent Cellulose Bags
Creped Kraft Bags and Barrel Liners
Die Cut and Folded Liners
Folding
Glueing
Sewing
Special Converting of Paper in All Its Forms

WESTERN WAXED PAPER CO.
Oakland, Los Angeles and Portland

Products

Waxed Papers—Printed and Plain
Waxed Paper Bags—Printed and Plain
Kleerwrap
Riegelite
Western Opaque
Butter Wraps
Bread Wraps
Candy Wraps
Transo
Shredded Waxed Paper
Icepak
Adsealit Bands
Majonnier Liners
Egg Crate Lining Bags
Gummed Tape
Lettuce Crate Kraft
Bread Wrapping Machines
Plant Covers
Waxfibre
Asparagus Wraps
Defiance Sheathing Paper

•

WESTMINSTER PAPER CO., LTD.
New Westminster, B. C.

Products

Toilet Tissues—
Plain, creped, glazed
Wrapping—
Kraft and Sulphite, 15 to 40 lbs.
Vegetable Fruit Wraps—
Plain, oiled, printed
Tissues, all colors
Towels and Napkins
Waxed Paper, plain and printed
Specialties

•

WEYERHAEUSER TIMBER CO.
Longview, Wash.
Everett, Wash.

Products

Bleached Sulphite Pulp
Unbleached Sulphite Pulp

WRAPPING SUNKIST LEMONS with citrus wraps made by Pacific Coast paper mills » » » It is estimated that over 12,000 tons of fruit wraps were used by the Southern California citrus industry in the 1935-1936 season, all of which was manufactured on the Pacific Coast.

R. E. CHASE & CO.

INCORPORATED

1924

ENGINEERING EQUIPMENT

Tacoma Building—TACOMA—Main 4281
1411 Fourth Ave.—SEATTLE—ELiot 6663
Railway Exchange Bldg.—PORTLAND—Beacon 4771
1823 So. Maple St.—SPOKANE—Riverside 0776

R. E. CHASE, *Chemical Engineer*, President
H. F. WARREN, *Chemical Engineer*, Vice President
W. A. SIMPSON, *Treasurer*
J. F. SUSAN, *Secretary*
H. S. BASTIAN, *Mechanical Engineer*, Portland Manager
H. W. M. STORER, *Spokane Agent*
R. E. CHASE, JR., *Service Dept.*

●

Pacific Northwest Sales Agents for:

American Arch Co.
American Air Filter Co.
Anthony Company
Automatic Temperature Control Co.
Bayer Company
Carpenter Steel Co.
Combustion Engineering Co.
Duriron Co.
Fischer & Porter Co.
Frederick Iron & Steel Co.
General Ceramics Co.
Hills-McCanna Co.
Holly Pneumatic Systems
Ingersoll Steel & Disc. Div.
Mercon Regulator Co.
Zaremba Company
Michigan Steel Casting Co.
New England Tank & Tower Co.
Richardson Scale Co.
Stets Company
Sturtevant Mill Co.
Superheater Co.
Terry Steam Turbine Co.
Vaughan Motor Co.

Trade Agreements Threaten Further Injury to Paper Industry

Price Declines—Loss of Employment in Paper Industry Result of Agreements

by WARREN B. BULLOCK, Manager
Import Committee, American Paper Industry

"During 1937, the first full year under the reciprocal trade agreement with Switzerland * * * Swiss imports from the United States were valued at $29,000,000, an increase of 28 per cent over 1935, the calendar year prior to the agreement. United States imports from Switzerland of $26,000,000 in 1937 were * * * 62 per cent greater than in 1935."

THE above quotation from a Department of State publicity release dated May 2, 1938, tells the story which is being related in the case of every country with which the United States has negotiated reciprocal trade agreements. It is the State Department's boast of improved foreign trade as a result of the reciprocal trade agreement policy.

The Paper Industry is not as enthusiastic over the reciprocal trade agreement program as the State Department. With agreements pending between the United States and the United Kingdom and Canada, practically every major grade of paper has either been subjected to unwarranted duty reductions or is under consideration for duty reduction in the agreements not yet concluded.

Labor Loses

Labor is disturbed over the prospect, for every ton of paper imported means the donation of a week of full time work by an American paper maker to his foreign competitior. The duty free standard newsprint now being imported from Canada represents $50,000,000 a year in wages which are not received by American workmen, according to the statement made before Government officials by D. C. Everest, president of the American Paper & Pulp Association, when the pending Canadian agreement was under consideration.

The increase in imports from Scandinavia of wrapping paper has meant the loss to foreign workmen of 32,000 weeks of work at full time by American paper makers in the two years 1936 and 1937 since the agreements have been in full operation on wrapping papers. This figure is the loss of employment above that represented by importations before the reduced rates went into effect. (Table II)

● The proposal pending in the Canadian agreement to reduce the duty rate on printing and tissue papers, among others, indicates that the statement previously made that the paper industry is a primary target of the Washington officials is borne out by developments. A strenuous battle is being waged against these reductions, but the outcome will not be known until the agreements have been completed and signed at Washington, which will be some time in June.

The Import Committee of the American Paper Industry prepared detailed briefs with evidence of the losses to employment and to capital which would result from the proposals in the British and Canadian agreements, as it has done in some score of agreements with other countries already concluded.

That there is a prevailing sentiment that the State Department program for duty reductions has been made up in advance can not be denied. Washington officials declare that the representations of industry are being given careful attention. If the same "careful consideration" given other industries in previous negotiations is a criterion, the Paper Industry is already the subject of tremendous competition from abroad. Paper and pulp lead the list of commodities in value of imports. What the Paper Industry can not understand is why it should be subjected to duty slashes on the paper not now on the free list. Duty free imports of newsprint and pulp in 1937 reached the staggering total of $220,000,000 — an increase of $82,000,000 over 1934. That imports of dutiable paper total only approximately $25,000,000 is cited by Washington as an indication that the present protection is not needed. Washington fails to realize that much of the $220,000,000 of imports of duty free merchandise involves products formerly made profitably in this country. (Table V)

● The pending consideration of duty reductions on paper duties in the Canadian trade agreement offers little consolation to the American Paper Industry. The pending agreement is a revision of that already in existence, but concessions on paper greater than those in the original agreement are under consideration. Under the original agreement, American imports of dutiable paper increased 137 percent in 1937 as compared with 1934. Exports of American paper to Canada decreased 4 percent. (Table 1)

Trade agreements reduced the duty rate on some boards. Canada's shipments increased over 50 percent, while imports of paper boards, a field in which the United States is a preeminent producer, increased to more than double the 1934 figure. (Table III)

Duty rates were reduced on various other papers with a similar effect. The result on imports of photographic paper, papeteries and

THE TRUTH, THE WHOLE TRUTH... and nothing but the TRUTH

ABOUT LIQUID LEVEL IN THE DIGESTER

Users of the* CHEMI-PULP PROCESS *method of cooking use Taylor Liquid Level Recorders to obtain maximum efficiency in production and quality

PREHEATING and liquor-circulating systems are proving themselves in many leading mills. And Taylor Instruments are contributing greatly to the efficiency and accuracy of this latest processing method for sulphite paper.

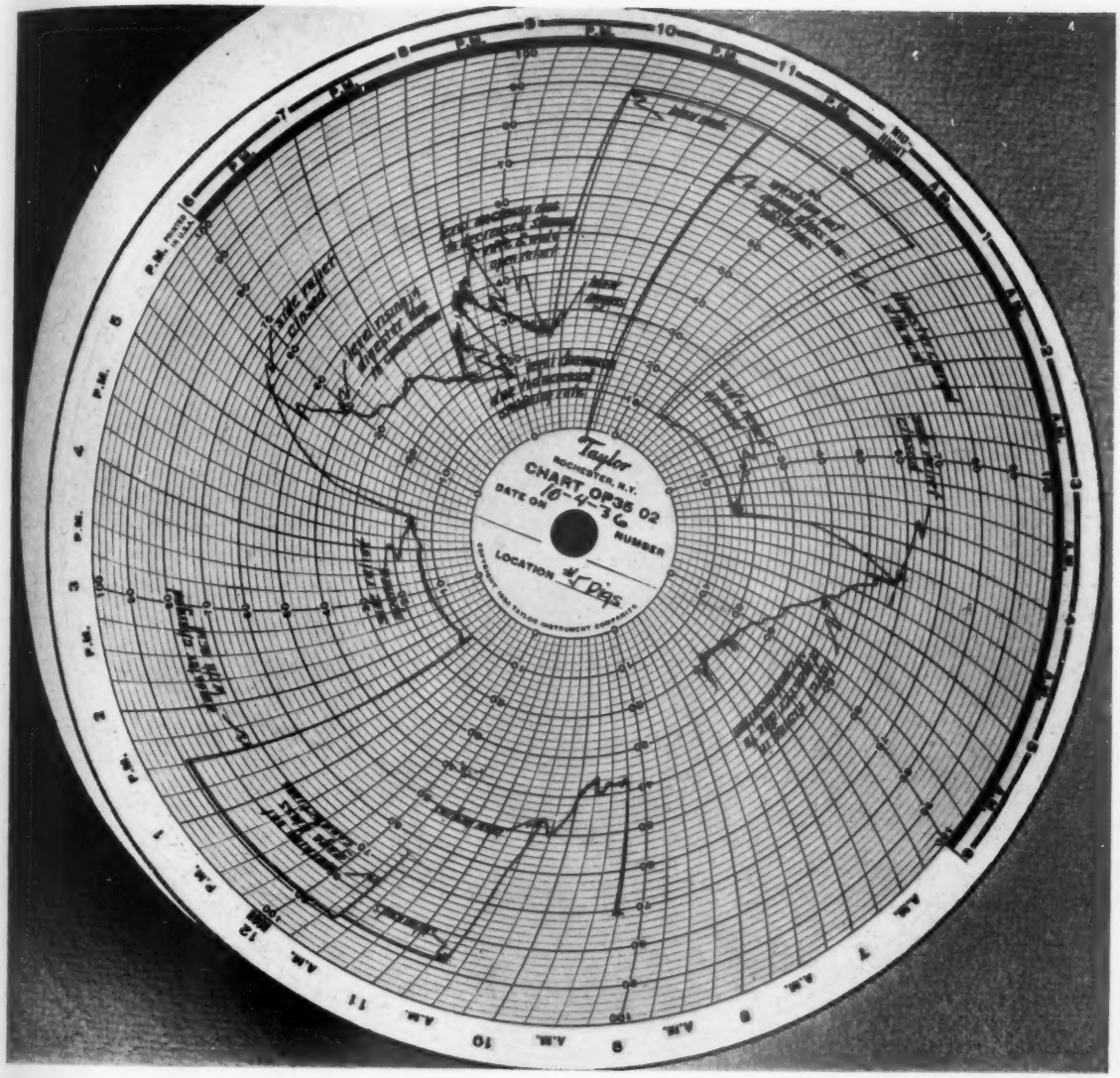
One of the important jobs done by Taylor Instruments is keeping a check on liquor, or acid, level in the digester. A Taylor Liquid Level Recorder tells the truth, the whole truth and nothing but the truth about the liquid level during and after cooking.

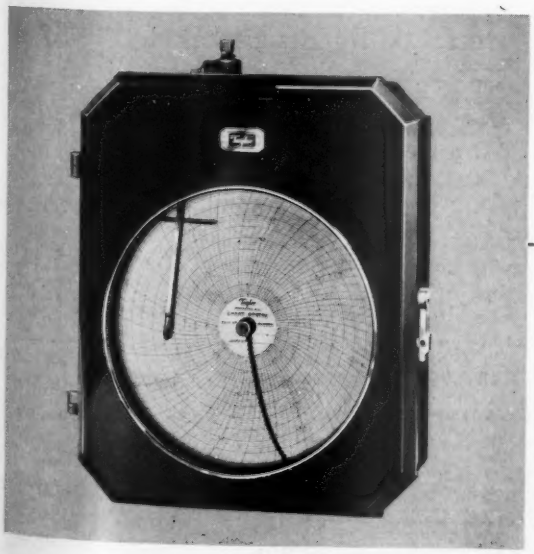
On permanent, easily read charts like the one above, the Taylor Liquid Level Recorder writes invaluable reports. These furnish a complete check on digester operation. They help save time and prevent waste. For instance, when the side relief of the digester is opened and the liquor drawn off, the operator knows exactly what the liquid level is. He can be absolutely certain that the chips are not being uncovered.

An accurate, durable Taylor Liquid Level Recorder on the digester and one on the accumulator are only two Taylor Instruments to help assure finest pulp at lowest cost. Taylor Temperature and Pressure Recorders and Controllers precisely, automatically maintain temperatures and pressures for efficient, economical operation.

All these instruments are examples of how Taylor keeps step with the latest developments in the pulp and paper industry. For the full story about them, just see a Taylor representative. Or write Taylor Instrument Companies, Rochester, N. Y. Plant also in Toronto, Canada. Manufacturers in Great Britain—Short & Mason, Ltd., London, England.

Pacific Coast Sales Offices—145 Mission St., San Francisco, Cal., and Central Bldg., Los Angeles. Also Terminal Sales Bldg., Portland, Oregon. Complete repair facilities for all Taylor Instruments are available in San Francisco. For your protection, have adjustments or repairs to Taylor Instruments made by Taylor.





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WESTERN GEARS

parchment are typical, with import increases as high as 200 per cent. (Table IV)

That the State Department does not intend to utilize the portions of trade agreements which were phrased as an assurance to American interests that undue injury to American trade would not be permitted is shown by the failure to act under the French agreement which provides for modification of rates in case of depreciation of foreign currency. Cigarette paper is a typical example. The duty rate was cut from 60 percent to 45 percent. The depreciation of French currency, however, has resulted in a startlingly greater sacrifice of American duty collections, and no move has been taken by our Government to rectify this condition either in the case of cigarette paper or of the many other import items which France is exporting in increasing quantities.

How long the United States can import cheap labor and increase unemployment in this country by encouraging larger purchases of foreign made goods is the question which will in part tell how long the present depression will exist.

British Columbia Produced 3½% of World News in 1937

• With construction and operating costs at their present level and the market such as it is, the newsprint industry in British Columbia is unlikely to see much expansion in the early future, according to R. Bell-Irving, vice-president of Powell River Company.

"For the past ten years it has been impossible for the industry to enjoy genuine prosperity," said Mr. Bell-Irving. "The prices have been ridiculously low, and out of all proportion to the rise in our costs.

"Competing with eastern Canada, Scandinavia, England and Russia, it is necessary for Powell River Company to sell one of every forty rolls of newsprint marketed in the world in order to maintain normal production.

"Last year British Columbia (Powell River Company and Pacific Mills) produced 3½ per cent of the world's supply of newsprint, or 267,000 ton. Of this total Powell River produced 206,000 tons. Powell River last year sold 11 per cent of its annual output in Canada; 31 per cent in the Pacific coast states; 38 per cent in the southwest states and Texas; 6 per cent in Australasia; 11 per cent in the Orient, and 3 per cent to miscellaneous overseas markets.

"From the standpoint of natural resources and location British Columbia has every advantage. We have the pulpwood, the waterpower and the tidewater access to the markets of the world. But in world markets we have to face the competition of notoriously low-cost countries and without world markets we might as well close down. Domestic sales are negligible."

TABLE I — CANADA

	1930	1934	1937	Increase in 1937 over 1934	Per Cent of Increase 1937 over 1934
Value of Imports of Duitable Paper from Canada	$1,201,000	$587,000	$1,392,381	$805,381	137
Value of Exports of all Paper to Canada	9,622,000	3,405,000	3,273,236	131,764*	4*

*Decrease.

TABLE II
MACHINE GLAZED KRAFT WRAPPING

	1934		1936		1937	
	Tons	Value	Tons	Value	Tons	Value
From Sweden	2,190	$185,209	9,000	$644,000*	6,826	$542,974
From Finland	1,842	112,673	4,800**	253,000	6,446	161,450
From Others	(542 pounds)	35	(1)	(69)	.....	.....
Total	4,032	$297,917	13,800	$897,000	9,272	$704,424

*The unit value in 1936 was $20 per ton lower than in 1934.
**Finland was able to ship throughout 1935 and ten months of 1936 at the reduced duty rate granted Sweden before it made reciprocal concessions to the United States.
NOTE—No M. F. Kraft was imported in 1934. Allocation of kraft imports in 1936 are estimated from the official segregated statistics first available in November, 1936. For this reason 1936 figures for M. G. and M. F. Kraft are only given in round figures.

MACHINE FINISHED KRAFT WRAPPING

	1934		1936		1937	
	Tons	Value	Tons	Value	Tons	Value
From Sweden	.....	.....	6,850	$430,000	4,095	$269,623
From Finland	.....	.....	3,600	220,000	3,132	196,564
From Others	.....	.....	(1)	(69)		
	.....	.....	10,450	$650,000	7,227	$466,221

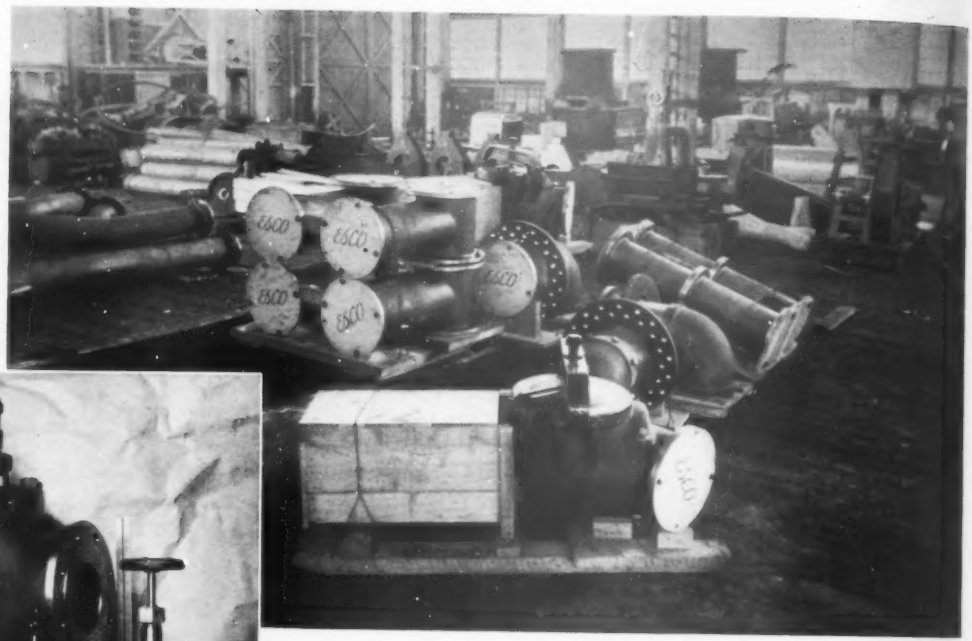
OTHER WRAPPING PAPER

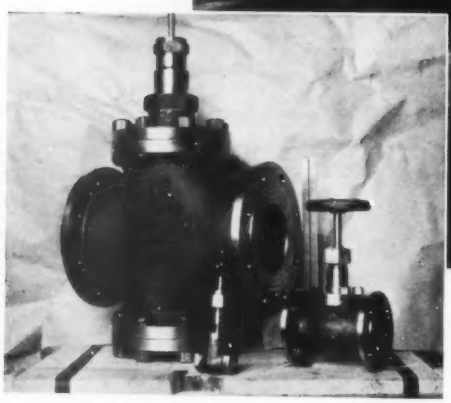
	1934		1936		1937	
	Pounds	Value	Pounds	Value	Pounds	Value
All Countries	1,602,658	$59,417	2,458,766	$70,902***	2,956,319	$76,401

***While the quantity increased 50 per cent, the value increased less than 20 per cent. As in the case of kraft wrapping, the value was lower after the Treasury Department overruled a complaint of Dumping.

STAINLESS

Large or Small





Cast--or Fabricated

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ELECTRIC STEEL FOUNDRY COMPANY

PORTLAND, OREGON

TABLE III

	PAPER BOARDS FROM CANADA		FROM OTHER COUNTRIES	
	1934	1937	1934	1937
Processed Paperboard	$ 6,054	$31,324	.....	.....
Pulpboard Processed for Wallboard	.....	3,118	.....	.....
Pulpboard Unprocessed for Wallboard	317,627	488,893	.....	.....
All Other Paperboard	.....	.....	503,976	$1,198,205
	$323,681	$523,335	$503,976	$1,198,205

TOTAL IMPORTS, ALL BOARDS, ALL COUNTRIES

1934	1937
$827,657	$1,721,540

•

TABLE IV

Grade	Trade Agreement with	1934	1937
Sensitized Photo Paper	Belgium	$310,186	$360,328
Vegetable Parchment	Belgium	26,619	61,129
Papeterie	France	23,633	81,294

•

TABLE V

	1934	1937	Increase
Total Imports of all Duitable Paper	$7,413,112	$10,918,049	$3,504,937
Imports of Paper on which Trade Agreements reduced duties, not including those on which previous rates were bound	4,823,592	6,044,237	1,220,645
Imports of Duty Free Standard Newsprint and Wood Pulp	138,096,614	220,798,534	82,701,920

•

TABLE VI—RELATIVE TARIFF BARRIERS

Numerical Order	Nation	Average Ad Valorem Duty Collection
1	Australia	30.9
2	India	30.5
3	Argentina	28.7
4	Italy	25.9
5	United Kingdom	25
6	Germany	24.8
7	New Zealand	21.9
8	South Africa	20.3
9	UNITED STATES	19.8
10	China	19.3
11	Canada	19
12	France	15.5
13	Sweden	10.8
14	Belgium	10.3
15	Japan	6

The above table is reproduced from Mr. Bullock's article on the effect of Reciprocal Trade Agreements on the Paper Industry which appeared in the 1937 Review Number. It shows that the United States is far down the list of tariff barrier nations according to figures disclosed by the United States Tariff Commission for 1933, the year before the Trade Agreement Act went into effect. Mr. Bullock stated, "Whether or not a nation is a high tariff nation is determined by computing the percentage of the total customs receipts to total imports. Duty free imports into the United States constitute well over 60 per cent of all imported merchandise, and it happens that duty free newsprint and wood pulp combined constitute the largest item in value of duty free imports, coffee being second on the list."

U. S. Supplied 40% of Japanese Wood Pulp Imports in 1937

As compared with 47% in 1936 and 40% in 1935—Total Pulp Imports up 43% in 1937 over 1936—Japanese Pulp Production expanded 11.6% over 1936 and 17% over 1935—Data from report of CARL H. BOEHRINGER, Assistant U. S. Trade Commissioner, Tokyo, Japan

THE wood pulp industry of the United States supplied 40 per cent or 209,069 short tons of the 522,609 short tons of all grades imported by Japan in 1937, according to the quarterly report of Assistant U. S. Trade Commissioner Carl H. Boehringer in Tokyo, recently released by the Bureau of Foreign & Domestic Commerce of the United States Department of Commerce.

The American producer's share of the Japanese pulp imports was 7 percent less in 1937 than in 1936 but the same, 40 per cent, in 1937 as in 1935. However, this 40 per cent share in 1937 was 22 per cent larger in tonnage than the 47 per cent of the total held by the United States mills in 1936 and 72 per cent greater than in 1935, due to the tremendous increase in Japanese wood pulp imports.

Pacific Coast Shipped 82%

● Of the 209,069 short tons exported by American wood pulp producers in 1937, 82.3 per cent or 171,903 short tons was shipped by Pacific Coast pulp mills. Of this total 146,896 short tons valued at $9,752,131 was exported from the Washington Customs District and 25,007 short tons valued at $1,107,280. The total value of the exports from the two districts was $10,859,411.

Exports of pulp to Japan from the Washington Customs District consisted of 35,214 short tons of unbleached sulphite valued at $1,695,871 and 111,682 short tons of bleached sulphite pulp valued at $8,020,115. From the Oregon Customs district the entire tonnage of 25,007 short tons was unbleached sulphite pulp.

Imports of wood pulp into Japan in 1937 were 43 per cent greater than those in 1936 and 73 per cent larger than the imports of 1935 as will be noted by the accompanying tables.

Mr. Boehringer in his report points out that in the decade ending with 1937 the United States supplied an average of 35.4 per cent of the total imports of wood pulp into Japan. Canada was in second place with 20.4 per cent, while Sweden and Norway were in third and fourth places with 18.7 per cent and 16.3 per cent respectively. All other countries accounted for the remainder of 9.2.

Japan imported no mechanical pulp during 1937 but did bring in 59 tons in 1936.

Japanese Pulp Exports

● Japan exported 2,905 short tons of wood pulp in 1937 valued at $148,317 (based upon yen value of $.29) as compared with exports of 595 short tons valued at $22,722 in 1936.

Japan's 1937 Pulp Production

● Wood pulp production in Japan during 1937 aggregated 831,189 short tons of which 444,039 was chemical and 387,150 was mechanical pulp. This total is 86,586 short tons or 11.6 per cent greater than the 744,603 short tons produced in 1936. The 1937 production was 121,101 short tons greater than the 1935 production of 710,088 short tons or 17 per cent more than in 1935.

Mr. Boehringer states that, "Total output of wood pulp in the Japanese Empire, including Chosen (Korea) and output by companies not affiliated with the Japan Paper Manufacturers' Association, during 1935 is reported by the Department of Agriculture and Forestry, Tokyo, to have totalled 757,477 long tons (848,374 short tons), increasing in 1936 to 802,565 long tons (898,873 short tons). Accordingly, output by members of the association during both years represented 83 per cent of the total production. Provided that the total production increased at the same rate as did production by members of the association, and provided further that member companies again accounted for 83 per cent of the total output, total production during 1937 may be estimated at 895,926 long tons (1,003,437 short tons). It will be noted, however, that press reports place this figure at 870,000 long tons (974,400 short tons). Final figures on this point are not yet available (April 19th).

Pulp Prices in Japan

● Prices for both domestic and imported pulp in Japan are given in the tables accompanying this article and are self-explanatory.

JAPANESE IMPORTS OF RAYON AND PAPER PULP 1936-1937

Short Tons

	Rayon	Paper	Total	Value in Dollars*
1936	189,693	175,954	365,647	$19,461,046
1937	325,390	197,219	522,609	33,848,757

From reports by the U. S. Bureau of Foreign & Domestic Commerce.
*Dollar value based upon yen exchange rate of $0.29.

Data on Pacific Coast exports of wood pulp to Japan were not included in Mr. Boehringer's report and have been prepared and inserted by this journal.

Tonnage figures in Mr. Boehringer's report were in both long and metric tons and values were in Yen. We have converted long and metric tons to a uniform short ton basis to permit comparisons. Yen were converted to dollars at the Yen exchange value of $0.29.—Editor.

Import Quotas For 1938

● In his report Mr. Boehringer says, "The subject of import quotas for wood pulp has received a great deal of publicity during the past several months. As previously reported the imports of rayon pulp covered by unfilled contracts from 1937 were allowed during the first four months of 1938 as is shown in the accompanying table.

"Decision to permit these rayon pulp imports was reached by the Finance Ministry on January 10th, 1938. It was subsequently announced that a total of 58,000 tons (metric) or 63,800 short tons, additional would be allowed importation during the balance of 1938, making a total of 116,000 metric tons (127,600 short tons).

"According to the March 4th, 1938, issue of the monthly trade journal of the Japan Paper Manufacturers' Association, the total amount of paper pulp to be allowed importation during 1938 is 53,000 metric tons (58,300 short tons), including 30,000 metric tons (33,000 short otns) carried over from unfilled contracts in 1937 and 23,000 metric tons (25,300 short tons) of pulp contracted for during 1938.

"Although it is obvious that increased amounts of rayon pulp will be required before the end of 1938, nothing definite can be reported on this point at the present time (April 19th). The trend of events in China and elsewhere on the Asiatic continent will play an all important part when it comes to making further decisions. Additional determining factors include the trend of Japan's foreign trade."

JAPANESE WOOD PULP IMPORTS
1935, 1936 and 1937

Short Tons

	1935	1936	1937
Rayon Pulp	141,480	189,405	325,390
Paper Pulp	160,760	176,243	197,219
Total	302,240	365,648	522,609
Per cent from:			
United States	40.4	47.1	40.3
Sweden	18.7	17.2	26.0
Norway	17.9	17.1	13.3
Canada	12.7	8.5	11.1
Others	10.3	10.1	9.3

From a report by the U. S. Bureau of Foreign & Domestic Commerce.

Adjustment of Rayon Pulp Stocks

● "During the closing months of 1937 it was pointed out on several occasions that action was needed to cause companies holding large stocks of rayon pulp to share a portion of their stocks with companies less favorably situated, particularly companies engaged in the manufacture of staple fiber. That the Department of Commerce and Industry was directly interested in this matter was stated in several press reports. Definite action was taken in March when the Rayon Manufacturers' Association and the Staple Fiber Manufacturers' Association formally decided to organize a pulp adjustment body to adjust rayon pulp demand and supply.

"The new body which will be organized jointly by the two associations will start its business from April 1st. Following is the adjustment plan drawn up by the two associations, as reported by the "Japan Times & Mail," Tokyo, on March 17th, 1938.

"1. Pulp shall be distributed among the rayon and staple fiber manufacturers based on the stocks which were available at the end of 1937 and the quantity of supply which will be approved by the Commerce and Industry Ministry for the present year.

2. The Rayon Manufacturers' Association shall fix the supply quotas for each of its member companies on the basis of about 250 pounds per spindle and also in accordance with stocks each company holds. The Staple Fiber Manufacturers' Association shall fix the quota on the basis of the consumption record of the preceding month of each member company and the quantity of stocks on hand.

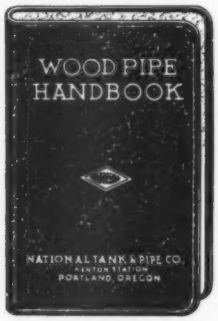
3. The adjustment body or association shall hereafter buy up all pulp under contracts between the domestic manufacturers or pulp importers and the rayon and staple fiber manufacturers, and shall redis-

SUMMARY-JAPANESE IMPORTS OF WOOD PULP
1928-1937

Short Tons

Year	U.S.A.	Sweden	Norway	Canada	Others	Total
1928	16,107	7,297	7,820	32,895	17,899	82,048
1929	16,195	10,413	16,034	38,935	8,609	90,199
1930	6,200	6,844	18,750	48,989	7,953	88,736
1931	22,518	20,348	11,531	54,941	8,649	112,985
1932	24,804	18,057	24,220	30,183	16,219	113,483
1933	50,042	29,130	34,934	52,238	13,104	179,449
1934	93,760	53,048	44,342	45,051	16,544	252,746
1935	122,315	56,745	54,416	38,545	30,758	302,780
1936	172,493	63,089	62,584	31,133	37,004	362,802
1937	209,069	136,528	68,729	58,265	50,950	523,541
Ten Year Average	73,553	39,640	34,436	43,117	20,468	211,215

From a report by the U. S. Bureau of Foreign and Domestic Commerce. Data from Japanese Department of Finance.



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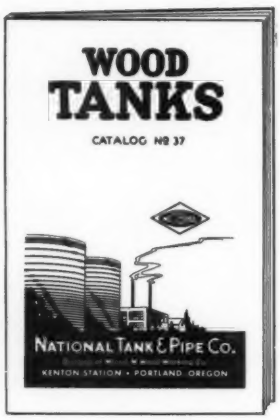

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tribute it, with some exceptions.

4. In case a member of the two associations has large quantities of pulp, it shall be bought up by the adjustment association to be distributed among other members who have not enough material. No member can refuse.' "

● "According to a report in the vernacular "Asahi Shimbun," Tokyo, of March 19th, 1938, the details of which check closely with information obtained from the trade and other sources, demand for rayon pulp in Japan during 1938 will approximate 392,400 metric tons (431,640 short tons), including 149,800 metric tons (164,780 short tons) for the rayon industry and 158,000 (173,800 short tons) metric tons for the staple fiber industry, and 9,000 metric tons (9,900 short tons) for the cellophane and celluloid industries. The balance of 75,000 metric tons (82,500 short tons) is to be held as a permanent stock equal to three months' consumption. Opposed to this demand for 392,400 metric tons (431,640 short tons) are carry-over stocks on December 31, 1937, of 138,000 metric tons (151,800 short tons) and the 116,000 metric tons (127,600 short tons) permitted importation during 1938 plus domestic production which is variously estimated at from 70,000 to 90,000 metric tons (77,000 to 99,-

Assuming that domestic production will total 70,000 metric tons, the deficit will amount to 68,400 metric tons (75,240 short tons); if production reached 90,000 metric tons, the deficit will be 48,400 metric tons (53,240 short tons). It remains to be seen just what will be done about this shortage.

Will Need More Rayon Pulp

"Some speculation on this point appeared in the press in recent weeks. It is stated that the second lot of 58,000 metric tons must all be consumed within the year and that these shipments must be cleared from foreign ports not later than September. In the meantime, says the 'Japan Times & Mail,' in an issue dated March 10th, 1938, it is revealed that the Government will possibly permit the rayon and staple fiber manufacturers and traders concerned to import more pulp during the months after September to cover their requirements for the earlier months of next year. According to traders, the pulp requirements for 1939 will be considerably larger, in view of the rapidly increasing demand for artificial fiber mixed textiles, particularly staple fiber goods, with a positive campaign of education waged by the manufacturers, in addition to the Government's textile regulations requiring staple fiber mixing in woolen and cotton goods.

Development of National Pulp Policy

● Major recent development in the pulp industry in Japan Proper concerns the establishment of the Tohoku Pulp Development Company, permission for which was granted by the Diet on January 20, 1938. The new firm is being financed jointly by the Oji Paper Manufacturing Company and the semi-official Tohoku Development Company. It will be capitalized at Yen 50,000,000 of which the two firms will invest Yen 25,000,000 each. The new company plans to erect two plants, the first at Shiogama, Miyagi Prefecture, and the second at Osaki, Akita Prefecutre, to manufacture a total of 50,000 metric tons of paper and rayon pulp. The two plants are scheduled to commence operations in December, 1939. The company will take full charge of cutting and sawing the

●

WOOD PULP EXPORTS TO JAPAN FROM U. S. PACIFIC COAST PORTS
1937

Customs District	Unbleached Sulphite		Bleached Sulphite		Total	
	Short Tons	Value	Short Tons	Value	Short Tons	Value
Washington	35,214	$1,695,871	111,682	$8,020,115	146,896	$9,715,986
Oregon	25,007	1,107,280	.....	.....	25,007	1,107,280
Total	60,221	$2,803,151	111,682	$8,020,115	171,903	$10,823,266

Source: U. S. Customs Service.

●

IMPORTS OF PAPER AND RAYON PULP INTO JAPAN*
1937

Short Tons

From:	Paper Pulp	Rayon Pulp	Total Pulp
Great Britain	6	173	179
France	171	.....	171
U. S. A.	56,338	156,036	212,374
Canada	35,518	23,108	58,626
Finland	5,861	36,790	42,651
Sweden	93,030	44,343	137,373
Norway	7,493	62,667	70,160
Czechoslovakia	85	4,702	4,787
Italy	.....	114	114
Other Countries	290	55	345
Total, 1937	198,792	327,988	526,780
Total, 1936	177,254	191,210	368,464

*As reported by Japan Paper Manufacturers' Association in its monthly trade journal. From reports by the U. S. Bureau of Foreign & Domestic Commerce.

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JAPANESE WOOD PULP PRODUCTION*
1935, 1936 and 1937

Short Tons

	Chemical	Mechanical	Total
1935	367,558	342,530	710,088
1936	384,615	359,988	744,603
1937	444,039	387,150	831,189

*Includes output in Japan Proper, Hokkaido and Karafuto (Japanese Saghalien). From report by the U. S. Bureau of Foreign & Domestic Commerce.

lumber required for pulp manufacture. The plan is to use broad-leaved and other trees available in the Tohoku district. According to a report published by the "Japan Advertiser," Tokyo, on March 22, 1938, the Tohoku Pulp Development Company was then actively engaged in seeking suitable sites for the construction of the two mills projected.

The Asahi Electrical Chemical Company, which recently enlarged its facilities for making straw pulp, in January, 1938, was reported to be planning to enlarge its present productive capacity from 20 metric tons a day to 30 metric tons. Preparations were made to have the new facilities ready for operation by April. Further information on this development was released on February 21, 1938, indicating that the newly planned capacity of output to 30 tons a day will involve an annual production of 10,000 tons.

The success of the Asahi Electrical Company to make straw pulp by utilization of chlorine has attracted the attention of other firms. Thus far,, one concern, the Rasa Industrial Company, has reported that it will start production of straw pulp by means of the same process at its plant in Osaka. The company plans to establish a Yen 5,000,000 subsidiary to take charge of this activity.

The first stage plan calls for a productive capacity of 10 metric tons a day, this total to be increased subsequently to 20 metric tons and 30 metric tons respectively by the second and third production expansion schedules. A significan feature of this development, reported by the Okuyama News Service, Tokyo, on March 15,1938, is the fact that this firm has heretofore been engaged in mining activities only.

Previous reports have carried information relative to the establishment of the Fukoku Rayon Pulp Company, formally established at Osaka on November 1, 1937, with authorized capital of Yen 10,000,000 quarter paid up. On December 9, 1937, it was reported that this firm had signed a provisional contract to purchase an 85,000 - tsubo (tsubo: 3.9537 square yards) site for its plant at Sobus-machi, Nakajima-gun, Aichi Prefecture. The area in question equals 336,000 square yards. Production of paper and rayon pulp from rice hulls is contemplated, operations scheduled to commence in 1939.

The Showa Paper Company on December 27, 1937, decided to treble its capitalization to Yen 7,500,000 for the purpose of increasing its production of rayon pulp. The pulp plan involves the erection of a plant in Yamanashi Prefecture with an annual caacity of 20,000 metric tons of pulp to be produced from domestic lumber. The initial goal is being set at 10,000 tons a year, however, in view of expected difficulties to be met in the early stages.

• A report from Nagoya dated February 6, 1938, stated that the Toyo Spinning Company has purchased a large site near Nagoya for erection of mills to manufacture pulp from mulberry trees. It was further stated that the company was planning to start preparatory work for the construction of mills during the latter part of February.

A report from Osaka dated February 13, 1938, claimed that the Kinka Rayon Company will soon organize a Yen, 3,000,000 pulp making company for the manufacture of rayon pulp from bark of a tree found in the Japanese Mandated Islands in the South Seas. The daily output capacity will reach 10 tons. Plans for the acquisition of the raw bark are said to have received official authorization. Most of the pulp will be turned over to staple fiber manufacture.

The desire of Japanese interests to increase pulp production is illustrated by the fact that several prefectural offices are taking steps to establish small-scale mills in their territories. The latest development of this sort was reported by the Okuyama News Service, Tokyo, on January 6, 1938, stating that the Iwate Prefectural Government was planning to encourage small-scale soda pulp manufacture as an activity designed to help rural districts. Three simple soda pulp plants are scheduled to be erected at first, each costing about Yen 10,000 for necessary equipment.

Pulp Developments in Chosen (Korea)

• On January 26, 1938, the "Japan Advertiser," Tokyo, carried a brief report released by Domei, the official Japanese news agency, stating that a process for manufacturing pulp from Korean pine trees has been worked out by the central laboratory and forestry experimental station of the Chosen Government-General. It is estimated, the report added, that Yen 10,000,000 worth of pulp can be produced if the industry is carried out on a large scale.

Pulp Developments in Taiwan (Formosa)

• Formal establishment of the Taiwan Pulp Kogyo Kaisha (Taiwan Pulp Industry Co., Ltd.), was reported early in February, 1938. Capitalization amounts to Yen 10,000,000 of which one quarter is paid up. Its head office and factory will be in Taichu Province, Taiwan. A mill capable of producing 15,000 tons of pulp from sugar cane bagasse will be built by November.

News involving two other companies organized for the purpose of making pulp from bagasse is also available. On December 11, 1937, the Okuyama News Service reported that the Formosan Sugar Company (Taiwan Sato Kabushiki Kaisha) was getting ready to embark upon production of pulp from bagasse. The plans at that time involved the establishment of a subsidiary capitalized at about Yen 20,000,000 with an annual output of 20,000 tons during the first stage of development. Taiwan was said to be the probable location of the pulp plant. The inauguration of the new pulp company is expected to take place in April or May, 1938.

Following the example of the Formosan Sugar Company, the Meiji Sugar Company has decided to engage in the manufacture of pulp from bagasse, according to a report released by Okuyama News Service on December 23, 1937. The Meiji Sugar interests are said to be closely connected with the Oji Paper Manufacturing Company and plans call for the establishment of a new company to be managed jointly with Meiji Sugar and Oji Paper. According to plans, the projected firm will have a capital of Yen 20,000,000 and will be established in March or April, 1938, under the name Meito (Meiji Sugar) Pulp Company. It will erect a plant with an annual pulp manufacturing capacity of 20,000 metric tons on a site adjoining the Nambu factory of the sugar company. It is added that the pulp manufacturing process worked out at the Nagoya plant of the Oji Paper Manufacturing Company will be adopted at the new pulp plant.

JAPANESE 1938 QUOTAS
For Rayon Pulp—Unfilled Contracts from 1937

Month	Short Tons	Value in Dollars*
January	16,731	$1,287,288
February	23,849	1,846,820
March	13,838	1,050,507
April	9,407	735,851
Total	63,825	$4,920,466

*Dollar value based upon yen exchange rate of $.29.

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JAPANESE PULP PRICES

Domestic Unbleached Sulphite Ex Warehouse Yokohama In Dollars Per Short Ton*

	1934	1935	1936	1937
High	$47.56	$47.56	$52.20	$87.00
Low	41.76	46.40	43.50	63.80
Average for Year	$46.11	$46.86	$45.70	$79.98

*As reported by the Oji Paper Manufacturing Company and published in the monthly trade journal of the Japan Paper Manufacturers' Association. Dollar value based upon yen exchange rate of $.29.

Reported by the U. S. Bureau of Foreign & Domestic Commerce.

Operation of the new pulp plants in Taiwan is expected to increase the coal consumption in the island by 150,000 metric tons annually, according to a report released by the Okuyama News Service on December 20, 1937. By the end of 1939, the coal consumption is likely to reach 1,000,000 metric tons, the present consumption amounting to 780,000 metric tons. In such case, the report concluded, exports of coal from Taiwan will probably have to be restricted unless the coal production in the island is also increased. In connection with this report it will be remembered that practically all of the bagasses has heretofore been consumed for fuel purposes at the sugar mills.

Pulp Developments in "Manchukuo"

● Plans for the production of pulp in "Manchukuo" continued to be released, the reports pointing to the fact that established projects are being materialized as regards actual production while several other projects that give promise have also been announced recetnly.

On December 9, 1937, the Okuyama News Service reported that the four wood pulp plants established by Japanese industrialists in Manchuria were then expected to commence operation in March or April, 1938. It was stated that all four companies had completed erection of plants and had completed surveys of forests in their respective districts. Of the four companies in question, it was reported that the Manchurian Pulp Industry Co., Ltd., also known as the Manchuo Pulp Industry Co., Ltd., affiliated with the Terada interests, will specialize in the production of paper pulp because of special relations with the Mitsubishi interests. The other three concerns will engage in the manufacture of rayon pulp. It will be remembered that the other three companies include the Toyo Pulp Company, affiliated with the Kawanishi interests; the Toho Pulp Company, formerly called the Toman or East Manchurian Pulp Company, affiliated with the Kanegafuchi Spinning Company, and the Nichiman Pulp Company, also known as the Japan Manchurian Pulp Company, affiliated with the Oji Paper Company .

On January 8, 1938, it was reported that the new plant of the Toho Pulp Company was completed late in December and had then started trial production. The plant, being equipped for an annual production of 15,000 metric tons of pulp originally, will be expanded to take care of 20,000 tons by next summer because of the "Manchukuo" Government's decision to permit the four established companies to increase their annual productive capacity by 5,000 tons each in accordance with its pulp production increase policy. The latter statement is significant since it indicates that the Government of "Manchukuo" has again altered its idea as regards limiting the production of pulp by these four companies. The first limit was only 10,000 tons a year for each concern, a total of 40,000 tons. This was subsequently increased to 15,000 tons each or 60,000 tons. The latest increase brings the total permitted to 80,000 tons.

Manchukuo Develops Plan

● News concerning a development of major importance was released by the Okuyama News Service on March 9, 1938. It was reported that the Government of "Manchukuo" had completed the drafting of a fundamental plan for the development of the pulp resources in the Siaokaoanling district, which is regarded to form a cardinal part in the state's five-year pulp development plan. According to the proposed plan, full details of which are being kept secret, a total fund of Yen 70,000,000, will be invested for the development of pulp resources in that district with the eventual goal of annual production fixed at 200,000 metric tons.

Construction of railway facilities connecting the forestry district and the site of the plant, which is expected to be at Tangyuan, will be planned by the forestry division of the Government. For the operation of the pulp policy concerned, a national policy company is proposed to be established. In view of the object of this company, it will be semi-official in nature.

The Government of "Manchukuo" is reportedly planning to have all sales of pulp produced in the Siaokaoanling district to be made by the Nichiman (Japan-Manchuria) Trading Company. This concern will have full control over sales while the Oji Paper Company's activities will be confined to production of pulp and management of the pulp plants.

The Okuyama News Service reported that the Nichiman Trading Company may be entrusted with the sole charge of pulp sales throughout "Manchukuo."

The Oji Paper Manufacturing Company has decided to build a paper mill at Chinchow, capital of Chinchow Province, Manchuria, to make paper from the reeds growing abundantly in the Panshan and Taian districts, according to the "Japan Advertiser," Tokyo, in a report published on February 13, 1938. The company has already bought much land where such reeds are grown. At first, Oji paper decided to put the plant at Yingkow, where the Kantech Pulp Company, affiliated with the Kanegafuchi Spinning Company, is operating. Oji Paper, however, failed to purchase the land there last year.

● As part of its large expansion program, the Kanegafuchi Spinning Company in late January was reported to have decided to expand its reed pulp plants at Kinkow and also to establish new pulp plants at important places in North China. Reports released in March indicated that this firm has further decided to unite two pulp plants under its control in Manchuria into a single company. As previously indicated, it now manages the Toho Pulp Company, formerly called the Toman or East Manchurian Pulp Company, and also the reed pulp plant at Yingkow. The proposed control company will be capitalized at Yen 30,000,000 and will be called the Kanegafuchi Pulp Industrial Company and will function as a direct affiliate of the Kanegafuchi Spinning Company by absorbing the Toho Pulp Company, the Kangteh Reed Pulp Company and such other pulp ventures as might be developed later on.

Pulp Developments in North China

● Previous reports have contained references to the activities of the Toyo Seishi Kogyo Kabushiki Kaisha (Toyo Paper Industrial Co., Ltd.) to establish a reed pulp paper plant near Tientsin. On March 8, 1938, the Okuyama News Service reported that this plant is under construction at Hweitsichen near Tientsin and is scheduled to be completed by the end of March and ready for operation in about June. In the first stage, the company plans to manufacture a daily average of 55 metric tons of paper from reed and Manchurian lumber, an annual total of 18,000 metric tons.

The company also plans to establish branch plants at various points in central and North China. Purchasing of paper plants managed by Chinese is also being considered. The company has already obtained 7,744 metric tons of reed in stocks and has also acquired rights to cut reed in the major reed producing districts in the Tientsin area.

JAPANESE PULP PRICES

Imported Paper and Rayon Pulp In Dollars Per Short Ton*

	Prices for Paper Pulp			Prices for Rayon Pulp		
	1935	1936	1937	1935	1936	1937
High	$38.86	$37.12	$52.78	$69.60	$70.44	$70.76
Low	37.70	35.96	41.76	69.02	66.70	67.28
Average for Year	$38.28	$36.25	$48.08	$69.25	$66.87	$69.02

*As reported in the monthly trade journal of the Japan Paper Manufacturers' Association. Dollar value based upon yen exchange of $.29.

Reported by the U. S. Bureau of Foreign & Domestic Commerce.

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Pacific Coast Exported 80% of 1937 Pulp Exports

United States Exports of Wood Pulp in 1937 of 302,056 Tons Were Up 108,571 Tons or 56% Above the 1936 Exports of 193,485 Tons

EXPORTS of wood pulp from the United States gained in 1937 for the fifth consecutive year establishing a new record of 302,056 short tons valued at $19,892,144. This was a gain of 108,571 short tons or 56 per cent more than the 193,485 tons valued at $10,600,176 exported in 1936. The increase in value in 1937 over 1936 was $9,291,968 or 87.6 per cent.

The Pacific Coast wood pulp mills exported 241,462 short tons of this 302,056 total tonnage or around 80 per cent, compared with 158,969 short tons exported by the Pacific Coast in 1936 out of the total United States exportation of 193,485.

Pacific Coast pulp mills exported 82,493 tons more in 1937 than in 1936, an increase of 52 per cent. In value the 1937 exports from the Coast were worth $15,017,175 while in 1936 they were valued at $8,303,004. The gain was $6,714,171 or 80.8 per cent.

U. S. Wood Pulp Exports

	Short Tons	Value
1930	48,426	$2,070,553
1931	53,307	2,405,642
1932	47,860	2,037,553
1933	79,191	3,113,883
1934	142,931	7,005,559
1935	171,710	8,632,971
1936	193,485	10,600,176
1937	302,056	19,892,144

Japan Largest Customer

● Of the 215,681 short tons of pulp valued at $14,427,859 bought by Japan from United States pulp mills last year, Pacific Coast pulp mills sold 171,903 tons valued at $10,823,266, 79.7 per cent of the tonnage and 75 per cent of the value.

The United Kingdom was the second largest buyer of American wood pulp in 1937 with purchases totaling 30,793 short tons valued at $1,718,738. Of this total Pacific Coast pulp mills exported 22,146 tons valued at $1,170,029.

The third largest buyer of American pulp in 1937 was France with purchases of 17,415 short tons valued at $1,193,939. Pacific Coast mills supplied 16,475 tons of this total valued at $1,117,400.

Belgium was the fourth largest buyer of American pulp in 1937 with imports of 14,185 short tons valued ot $1,057,978. Again Pacific Coast pulp mills supplied the largest share with 11,909 tons valued at $873,875.

Division of U. S. Exports

● The 302,056 short tons of wood pulp exported from the United States last year were made up of 207,589 tons of bleached sulphite valued at $15,528,810; 84,528 tons of unbleached sulphite valued at $3,804,649; 7,967 tons of soda pulp valued at $459,715; and, 1,972 tons of all grades valued at $98,970. Sul-

EXPORTS OF PAPER FROM PACIFIC COAST PORTS 1931-1937

(Tons of 2,000 lbs.)

Customs Districts.	1931 Tons	1931 Value	1932 Tons	1932 Value	1933 Tons	1933 Value	1934 Tons	1934 Value	1935 Tons	1935 Value	1936 Tons	1936 Value	1937 Tons	1937 Value
Washington	1,495	$162,773	1,686	$154,245	4,530	$270,160	5,735	$283,571	3,878	$197,278	4,807	$245,887	10,466	*$1,134,964
Oregon	4,383	263,192	2,579	130,033	3,895	173,179	11,254	462,088	12,801	436,378	15,904	1,031,489	13,087	*1,117,614
San Francisco	1,967	121,785	1,524	87,766	2,644	96,620	4,069	169,014	1,367	64,726	4,985	535,816	4,799	572,773
Los Angeles	4	427	27	1,910	129	8,329	553	21,431	285	12,072	176	6,495	2,035	304,468
San Diego	5	768	2	426	4	453	27	4,165	25	2,934	.....	.....	495[1]	64,763
Totals	7,854	$548,945	5,818	$374,380	11,202	$548,741	21,638	$940,269	18,356	$713,388	25,872	$1,819,697	30,882	$3,194,582

*Includes $53,475 for paper shipped through Washington Customs District, $7,824 through Oregon Customs District, for which no tonnage was given.

[1]Includes paper products.

EXPORTS OF WOOD PULP FROM PACIFIC COAST PORTS 1931-1937

(Tons of 2,000 lbs.)

Customs Districts.	1931 Tons	1931 Value	1932 Tons	1932 Value	1933 Tons	1933 Value	1934 Tons	1934 Value	1935 Tons	1935 Value	1936 Tons	1936 Value	1937 Tons	1937 Value
Wash.	28,305	$1,461,837	31,688	$1,574,625	67,346	$2,916,447	110,846	$6,078,757	127,896	$7,368,975	140,072	$7,680,896	201,734	$13,271,137
Oregon	3,657	117,513	1,397	36,135	30	1,140	5,471	203,624	14,103	524,424	18,776	617,867	39,728	1,746,038
S. Francisco	1,589	58,082	1,356	40,557	769	21,990	13	1,803	.....	.....	121	4,241	.....	.....
Los Angeles	.....	.....	.....	.....	.....	.....	4,992	356,008	.....	.....	.....	.....	.....	.....
San Diego	.....	.....	.....	.....	.....	.....	14	693	.....	.....	.....	.....	.....	.....
Totals	33,551	$1,637,432	34,441	$1,651,317	68,145	$2,939,577	121,336	$6,640,885	141,999	$7,893,399	158,969	$8,303,004	241,462	$15,017,175

phite bleached and unbleached, accounted for 292,117 tons out of the total exports of 302,056 tons or 96.6 per cent. This was the same percentage as in 1936 but the exports of sulphite pulp from this country increased 104,546 tons over the 187,571 tons exported in 1936.

Exports Versus Imports

● The exports of pulp have been expanding rapidly in percentage of increase from year to year since 1932 but in tonnage they are very small compared to the imports of wood pulp by American paper mills. In tonnage the 1937 pulp imports were but 12.6 per cent of the 2,394,539 tons imported while in 1936 the pulp exports were 8.5 per cent of imports. In value the 1937 exports were 20.2 per cent of the value of the imports, $98,269,113. The year 1936 showed the value of pulp exports to be 12.8 per cent of imports.

Pulp imports in 1937 were 2,092,483 tons larger than exports and $78,376,969 greater in value.

Paper and Board Exports

● Exports of paper, boards and paper products rose from $22,460,542 in 1936 to $31,088,199 in 1937, an increase of $8,627,657 or 38.4 per cent.

The Pacific Coast exported 36,746 short tons of paper and board in 1937 valued at $3,443,771. Compared with 1936 exports of 30,205 tons valued at $2,053,110 the 1937 exports were 6,541 tons, 21.6 per cent, larger and in value were $1,390,661 or 67.7 per cent greater.

Paper and board exports from Pacific Coast ports in 1937 were 84 per cent larger in tonnage than those of 1930 and 151 per cent greater in value.

British Columbia Exports

Available data on British Columbia exports of pulp and paper during 1937 are combined, so it is not possible to compare pulp and paper exports separately. The combined exports, according to the figures of the Vancouver, B. C., Merchant's Exchange dropped to 372,888 short tons in 1937 from 397,388 short tons in 1936, a decline of 24,500 tons or 6.1 per cent. The 1936 exports had shown an increase of 46,305 tons or 13.1 per cent over 1935.

However, exports of pulp and paper to the United States increased 30,120 tons from 175,861 tons to 205,981 tons, a gain of 17 per cent.

British Columbia exports to Japan declined abruptly from 131,795 short tons in 1936 to 83,764 tons in 1937, a decline of 48,031 tons or 36.4 per cent. The United States remained the largest buyer of British Columbia pulp and paper.

PAPER AND PULP EXPORTS OF THE UNITED STATES

For the Twelve Months Ending Dec. 31, 1936 and 1937

PAPER EXPORTS

Articles—		12 Months, Ending Dec., 1936 Quantity	12 Months, Ending Dec., 1936 Dollars	12 Months, Ending Dec., 1937 Quantity	12 Months, Ending Dec., 1937 Dollars
Paper and Manufactures			22,460,542		31,088,199
Printing paper—					
Newsprint paper	lbs.	29,147,352	594,131	34,089,087	961,337
Book paper, not coated	lbs.	18,096,095	997,572	29,922,886	1,822,130
Cover paper	lbs.	1,349,181	193,216	1,590,430	256,432
Greaseproof and waterproof paper	lbs.	7,747,151	1,604,256	9,128,220	1,864,392
Overissue and old newspapers	lbs.	138,086,864	932,779	193,818,066	2,013,511
Wrapping paper	lbs.	36,070,658	1,846,699	37,174,086	2,192,351
Kraft Wrapping	lbs.	5,890,703	249,543	9,196,454	437,823
Surface-coated paper	lbs.	8,412,505	898,814	10,587,858	1,146,288
Tissue and crepe papers	lbs.	5,342,220	579,327	10,501,402	1,031,773
Toilet paper	lbs.	8,550,039	699,941	11,519,241	928,040
Paper towels and napkins	lbs.	3,027,345	279,021	4,050,683	381,493
Boxboard (paper board and strawboard)	lbs.	55,151,073	1,241,307	69,983,615	1,787,068
Bristols and bristol board	lbs.	1,803,292	115,484	3,110,756	183,799
Other paper board	lbs.	22,202,512	1,063,121	33,403,220	1,561,910
Sheathing and building paper	lbs.	8,406,808	314,683	14,627,646	527,075
Fiber insulating board or bat	sq. ft.	54,399,106	1,451,618	61,594,253	1,797,966
Wall board of paper or pulp	sq. ft.	11,382,706	310,938	12,567,447	386,480
Blotting paper	lbs.	2,359,219	241,493	2,911,604	300,126
Filing folders, index cards and other office forms	lbs.	1,095,453	375,716	1,246,267	401,824
Papeteries (fancy writing paper)	lbs.	284,914	60,070	330,876	71,125
Other writing paper	lbs.	25,293,871	1,983,658	36,231,922	3,011,113
Paper hangings (wall paper)	lbs.	1,127,234	120,104	1,497,468	153,917
Paper bags	lbs.	13,798,633	798,339	20,326,500	1,221,532
Boxes and cartons	lbs.	11,302,322	740,324	13,856,038	914,326
Envelopes	lbs.	797,798	138,398	962,416	172,769
Vulcanized fiber sheets, strips, rods and tubes	lbs.	4,160,513	1,168,845	5,121,890	1,363,807
Cash-register and adding-machine paper	lbs.	3,534,906	262,793	4,459,624	325,198
Other paper and paper products			3,198,352		3,872,594

PAPER BASE STOCK EXPORTS

Article—		12 Months, Ending Dec., 1936 Quantity	12 Months, Ending Dec., 1936 Dollars	12 Months, Ending Dec., 1937 Quantity	12 Months, Ending Dec., 1937 Dollars
Paper base stocks			22,257,038		22,987,498
Pulpwoods	cords	20,720	124,162	23,798	149,316
Wood pulp—					
Sulphite wood pulp	tons	187,571	10,272,777	292,163	19,335,677
Bleached sulphate	tons	119,528	8,098,962	*	*
Unbleached sulphate	tons	68,043	2,173,815	*	*
Soda wood pulp	tons	4,689	267,278	7,967	459,054
Other wood pulp	tons	1,225	60,121	1,920	96,752
Rags and other paper stock	lbs.	41,283,865	1,259,913	142,813,440	2,946,699

*Included under other wood pulp.

WOOD PULP EXPORTS

From Pacific Coast Ports

By Countries of Destination

(Tons of 2,000 lbs.)

Customs District.	Bleached Sulphite Tons	Bleached Sulphite Value	Unbleached Sulphite Tons	Unbleached Sulphite Value	All Other Tons	All Other Value	Total Tons	Total Value
From Washington—								
Belgium	11,898	$873,475	.....	.....	11	$400	11,909	$873,875
Canada	2,404	173,647	250	$8,599	2	74	2,656	182,320
China	414	23,267	4,088	162,412	211	8,444	4,713	194,123
Japan	111,682	8,020,115	35,214	1,695,871	.....	.....	146,896	9,715,986
Czechoslovakia	144	9,644	.....	.....	.....	.....	144	9,644
France	16,384	1,111,900	24	750	67	4,750	16,475	1,117,400
Germany	.....	.....	18	791	.....	.....	18	791
England	7,626	534,926	267	14,942	55	3,700	7,948	553,568
Argentina	1,321	100,963	.....	.....	60	4,230	1,381	105,193
Mexico	674	50,362	.....	.....	.....	.....	674	50,362
India (British)	78	3,320	2,494	82,365	.....	.....	2,572	85,685
Brazil	2,113	135,219	.....	.....	.....	.....	2,113	135,219
Hongkong	114	8,629	318	13,915	.....	.....	432	22,544
Philippine Islands	.....	.....	480	20,167	.....	.....	480	20,167
Australia	.....	.....	1,656	65,746	.....	.....	1,656	65,746
French Indo-China	.....	.....	168	8,874	.....	.....	168	8,874
Total	154,852	$11,045,481	44,977	$2,074,432	406	$21,598	200,235	$13,141,511
From Oregon—								
Japan	.....	.....	25,007	$1,107,280	.....	.....	25,007	1,107,280
China	.....	.....	523	22,297	.....	.....	523	22,297
England	670	38,289	13,528	578,172	.....	.....	14,198	616,461
Total	670	$38,289	39,058	$1,707,749	.....	.....	39,728	$1,746,038
Grand Totals	**155,522**	**$11,083,770**	**84,035**	**$3,782,181**	**406**	**$21,598**	**239,963**	**$14,887,549**

EXPORTS OF PAPER BOARD

FROM PACIFIC COAST PORTS

1931-1937

(Tons of 2,000 lbs.)

BOXBOARD, BRISTOL, OTHER PAPER BOARD

Customs Districts.	1931 Tons	1931 Value	1932 Tons	1932 Value	1933 Tons	1933 Value	1934 Tons	1934 Value	1935 Tons	1935 Value	1936 Tons	1936 Value	1937 Tons	1937 Value
Washington	832	$51,381	228	$10,483	482	$23,335	232	$13,073	192	$14,755	244	$17,550	1,759	$89,347
Oregon	3,870	148,575	4,357	126,518	2,397	76,612	690	30,638	542	22,829	179	14,200	.....	.....
San Francisco	5,735	227,611	1,927	89,475	4,406	163,669	2,352	101,089	3,127	123,917	3,853	194,086	4,367	201,550
Los Angeles	34	3,012	2½	272	64	5,104	313	15,023	69	6,452	57	7,577	233	23,055
San Diego	1½	283	½	108	½	98	5	542	2	156	.....	.....	32	3,006
Totals	10,473	$430,862	6,515	$226,856	7,050	$268,818	3,592	$160,365	3,932	$168,109	4,333	$233,413	6,391	$316,958

1,009,283 square feet value $29,599; passed through Washington Customs District, 728,422 square feet, value $14,358, passed through Oregon Customs District, 3,595,286 square feet, value $121,695, passed through San Francisco Customs District, not included in total.

BRITISH COLUMBIA

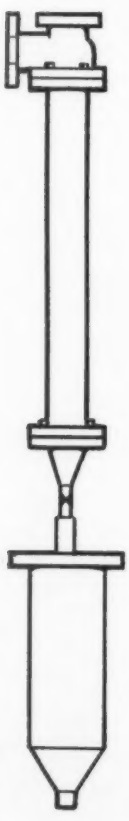
Pulp and Paper Exports

From All British Columbia Ports

(Compiled by Vancouver Merchants' Exchange—Short Tons)

Destination—	1929	1930	1931	1932	1933	1934	1935	1936	1937
Australia	21,480	15,940	11,835	15,314	14,685	26,053	26,026	42,876	18,810
Argentine	.....	609	..... *	19,752	28,604	3,985	.....	.....	.....
Central and South America	14,677	16,503	22,637	6,404	12,693	7,314	2,867	.....	2,628
Canada (Eastern ports)	2,130	4,339	4,457	3,820	4,620	24,800	27,677	29,614	29,210
China	1,870	2,620	489	16,105	26,494	40,062	3,281	5,084	1,651
Japan	45,526	54,865	78,631	59,959	100,257	93,212	155,530	131,795	83,764
New Zealand	9,525	9,214	5,363	4,251	4,254	2,845	3,206	5,289	2,331
United Kingdom	1,728	621	9,047	486	347	6,953	4,164	3,698	16,498
United States	156,788	174,017	157,943	130,771	117,733	128,224	123,343	175,861	205,981
Other Countries	277	90	458	731	4,984	11,611	4,989	3,171	12,015
Total Short Tons	254,001	278,818	290,860	257,724†	314,671	345,059	351,083	397,388	372,888

*Argentine shipments in 1931 and 1935 are included under Central and South America.
†Includes 131 tons of paper shipped from New Westminster, destination not available.



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Available Pulpwood Supplies In the Pacific Northwest

Data for the Inland Empire Added to Forest Service Survey of Western Washington and Oregon—Douglas Fir Included as Pulping Species

THE volume of pulpwoods available for cutting in the western pulp and paper region is shown in the accompanying tables which have been prepared from data derived from surveys of the Pacific Northwest Forest and Range Experiment Station of the U. S. Forest Service.

These figures were published in this journal last year shortly after the completion of these forest surveys, and are here reprinted as a matter of information and reference on forest statistics. Pulpwood cutting has continued in the timber since the studies were made, but the percentage of reduction in total volume has been so slight that for all practical purposes the data may be considered as accurate.

A careful recheck in the county of heaviest pulpwood cutting in the Pacific Northwest showed that the reduction in hemlock from 1933 to 1937 amounted only to approximately eight per cent. In other sections the depletion would amount to much less during the four-year period.

The tables in this issue also include the latest figures on the amount of Douglas fir available for cutting in western Washington and western Oregon. While Douglas fir is not widely used as a pulping species at this time, the fact that it is being employed to a certain extent by some Pacific Northwest mills, and that important advances have been made in new pulping process experiments, makes the presentation of this information of interest.

Also included is a table showing the cubic foot volume of the true pulping species in the Inland Empire, that area including northeastern Washington, northern Idaho and western Montana. These data, just recently made available by the Northern Rocky Mountain Forest and Range Experiment Station at Missoula, Montana, show there to be more than three billion cubic feet of pulp species in Inland Empire Forest, the major portion being made up of Engelmann spruce and white fir.

Pulpwood Distribution

The total cubic volume of pulpwood species available for cutting in western Washington and western Oregon is nearly 39 billion cubic feet, equivalent to 378 million cords. Western Washington holds almost 70 per cent of this volume. Central Puget Sound and the Grays Harbor area have, in fact, a total of 41 per cent of all the pulp timber in the entire region, each of the units having more than 8 billion cubic feet.

Defining Availability

The term "available for cutting" refers to that timber which is not affected by laws or declared public policy against commercial cutting. That which is not considered available includes timber in state parks and national parks, watershed property and the like. "Available for cutting" does not necessarily mean that the timber is available for sale to loggers, nor that it is necessarily economically available.

Of pulpwood volume in this area, Western hemlock constitutes 62 per cent of the total and is the predominating species in every one of the designated forest units, with the exception of the Umpqua River and the Rogue River units. The balsam firs, which rank next in pulpwood volume west of the Cascades, lead in these two forest districts.

Pulpwood timber does not mean timber of pulpwood size, but refers to species. Only 20 per cent of the stands are of what is commonly referred to as pulpwood size, that is, under-story and second growth trees. Fully 80 per cent of the total is in saw log size. Since some of the logs of this size will naturally be used for lumber and other products rather than as pulpwood as such, this must be taken into consideration in any study of the subject.

Ownership

The pulp timber volume shown in Table I is about 46 per cent privately owned, 42 per cent is on national forests and the remaining 12 per cent is on other public lands, such as county, state, Indian, etc. This is shown in greater detail in the Economic Availability table. In this, public lands other than national forests are grouped with private timberlands, for the reason that they are us-

*Article prepared from data supplied by the Pacific Northwest Forest Exeperiment Station, U. S. Forest Service, Portland, Oregon.

TABLE I

VOLUME IN CUBIC FEET OF PULPWOODS FOR ALL OWNERSHIPS, 4 INCHES AND MORE IN DIAMETER BREAST HEIGHT, AVAILABLE FOR CUTTING

Species—	Western Oregon	Western Washington	Totals
Western Hemlock	6,146,972,000	17,905,401,000	24,052,373,000
Sitka Spruce	1,142,498,000	1,601,977,000	2,744,475,000
Balsam Firs*	3,555,999,000	6,978,520,000	10,534,519,000
Mt. Hemlock and Engelmann Spruce	946,038,000	352,629,000	1,298,667,000
Black Cottonwood	68,128,000	123,170,000	191,298,000
Totals	11,859,635,000	26,961,697,000	38,821,332,000
Douglas Fir[1]	54,631,544,000	24,902,950,000	79,534,494,000
Grand Totals	66,491,179,000	51,864,647,000	118,355,826,000

*Includes Silver fir, White fir, Noble fir, Shasta red fir, Lowland white fir and Alpine fir.

[1]Cubic foot volume available for cutting, not including timber reserved from cutting in state and federal forests. While Douglas fir is not a true pulping species in the accepted sense of the word, present use of the species and the progress of pulping experiments make these figures of interest.

ually scattered among privately owned lands and would be operated in conjunction with them.

Only Sound Wood Included

In these tables, cubic volume estimates give the total sound wood content of the stem of the tree, exclusive of bark and limb wood. Decayed material is omitted, as well as the entire volume of all cull trees having more than two-thirds of the board-foot content defective. No deduction is made, however, for breakage in logging

Table I reveals that western Washington holds more than twice as much of the pulp species available for cutting, than does western Oregon, and practically three times the quantity of the important hemlock species. Geographical distribution of the totals is shown in Table II.

Economic Availability

The mere presence of a large quantity of pulp timber in an area is not all-

INLAND EMPIRE PULPWOOD

Amount of pulpwood in the Inland Empire by species and localities in thousands of cubic feet*

Locality—	Pulp Timber Species: Engelmann spruce (M cubic feet)	Hemlock (M cubic feet)	White fir (M cubic feet)	Black cottonwood (M cubic feet)	Total All Species
Northeastern Washington	16,368	18,799	26,015	37	61,219
Northern Idaho	607,255	160,380	1,081,520	5,424	1,854,579
Western Montana	946,000	30,008	102,322	24,838	1,103,168
Total for Inland Empire	1,569,623	209,187	1,209,857	30,299	3,018,966

*Hemlock and white fir contain small amounts of mountain hemlock and alpine fir respectively.

Northeastern Washington includes Spokane, Stevens, and Pend Oreille Counties while northern Idaho includes 9 counties north of the Salmon River and all of Montana west of the Continental Divide is included in western Montana.

To convert cubic feet to board feet Scribner Decimal C log scale multiply Engelmann spruce figures by 5.92; hemlock and white fir by 6.12, and black cottonwood by 6.57.

Source: Northern Rocky Mountain Forest & Range Experiment Station, Missoula, Mont.

Table II.

VOLUME OF PULP WOODS, OTHER THAN DOUGLAS FIR, IN WESTERN WASHINGTON AND WESTERN OREGON AVAILABLE FOR CUTTING

In Thousands of Cubic Feet

WASHINGTON

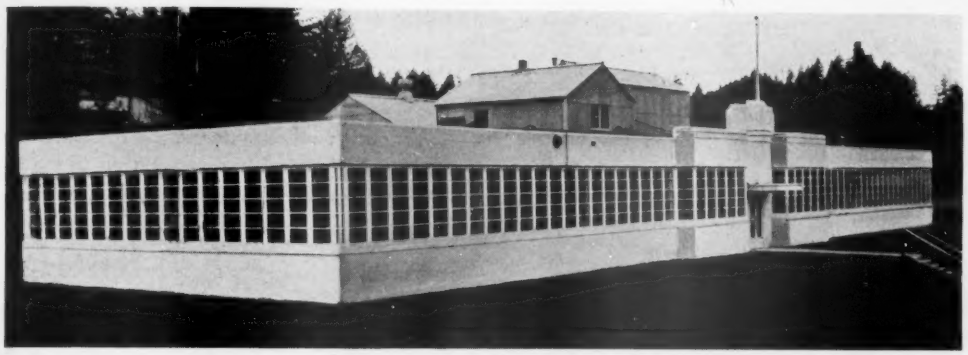
District and County	
North Puget Sound—	
Whatcom County	1,006,741
Skatgit County	1,836,559
Snohomish County	2,266,424
San Juan County	11,461
Island County	8,934
District Total	5,130,119
Central Puget Sound—	
King County	2,166,924
Pierce County	1,358,908
Kitsap County	23,295
Mason County	465,119
Clallam County	3,732,187
East Jefferson County	264,776
District Total	8,011,209
South Puget Sound—	
Thurston County	53,818
Lewis County	2,423,835
District Total	2,477,653
Grays Harbor—	
West Jefferson County	3,191,606
Grays Harbor County	2,902,400
Pacific County	1,908,220
District Total	8,002,226
Columbia River, Wash—	
Wahkiakum County	508,615
Cowlitz County	972,384
Clark County	34,248
Skamania County	1,825,243
District Total	3,340,490
Total Washington	**26,961,697**

OREGON

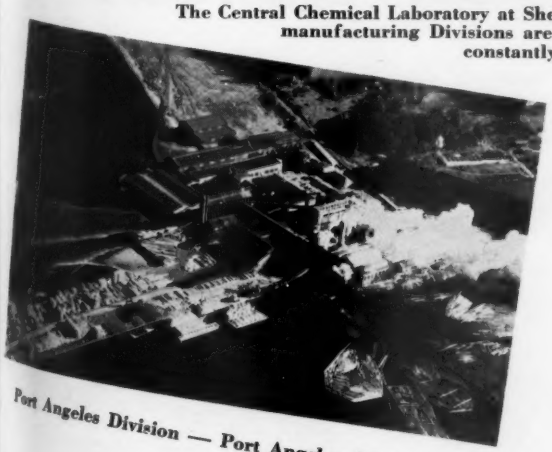
District and County	
Columbia River—	
Clatsop County	1,089,450
Columbia County	48,139
Washington County	84,693
Multnomah County	227,155
Hood River County	424,900
Clackamas County	1,141,042
District Total	3,015,379
Willamette River—	
Yamhill County	22,774
Polk County	220,277
Marion County	528,369
Benton County	58,273
Linn County	1,465,262
East Lane County	1,455,990
District Total	3,750,945
North Oregon Coast—	
Tillamook County	984,874
Lincoln County	666,705
West Lane County	113,641
District Total	1,765,220
Umpqua River—	
East Douglas County	1,243,033
District Total	1,243,033
South Oregon Coast—	
West Douglas County	392,461
Coos County	434,653
Curry County	185,953
District Total	1,013,067
Rogue River—	
Josephine County	110,289
Jackson County	961,702
District Total	1,071,991
Total Oregon	**11,859,635**

Shelton Division — Shelton, Washington

Grays Harbor Division — Hoquiam, Washington



The Central Chemical Laboratory at Shelton, Washington, where pulps from all manufacturing Divisions are tested and where Research is constantly in progress.



Port Angeles Division — Port Angeles, Washington

Tacoma Division — Tacoma, Washington

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important in itself, however. Mountain hemlock and Engelmann spruce, for instance, are definite pulp species, but usually occur in scattered stands and remote locations, and therefore are relatively unimportant. The type of site plays an important part in the feasibility of logging and in the economic availability of the timber. Western hemlock-Sitka spruce types principally occur on good sites and are accessible; the remaining species usually occupy poorer sites and are less accessible.

Ownership also is a factor to be considered. National forest timber, even if available for sale, is usually in the more rugged country and not profitable to log. The balsam fir-mountain hemlock group is largely in public ownership, chiefly in national forest. Timber of the Western hemlock-Sitka spruce type is chiefly in private ownership.

Some of the timber included in Tables I and II is, then, not "economically ripe." This does not mean, however, that it cannot ever be logged at a profit. Changing economic conditions, changes in methods of logging, in transportation, and in other engineering and economic factors, may later make certain timber available that cannot now be taken with profit.

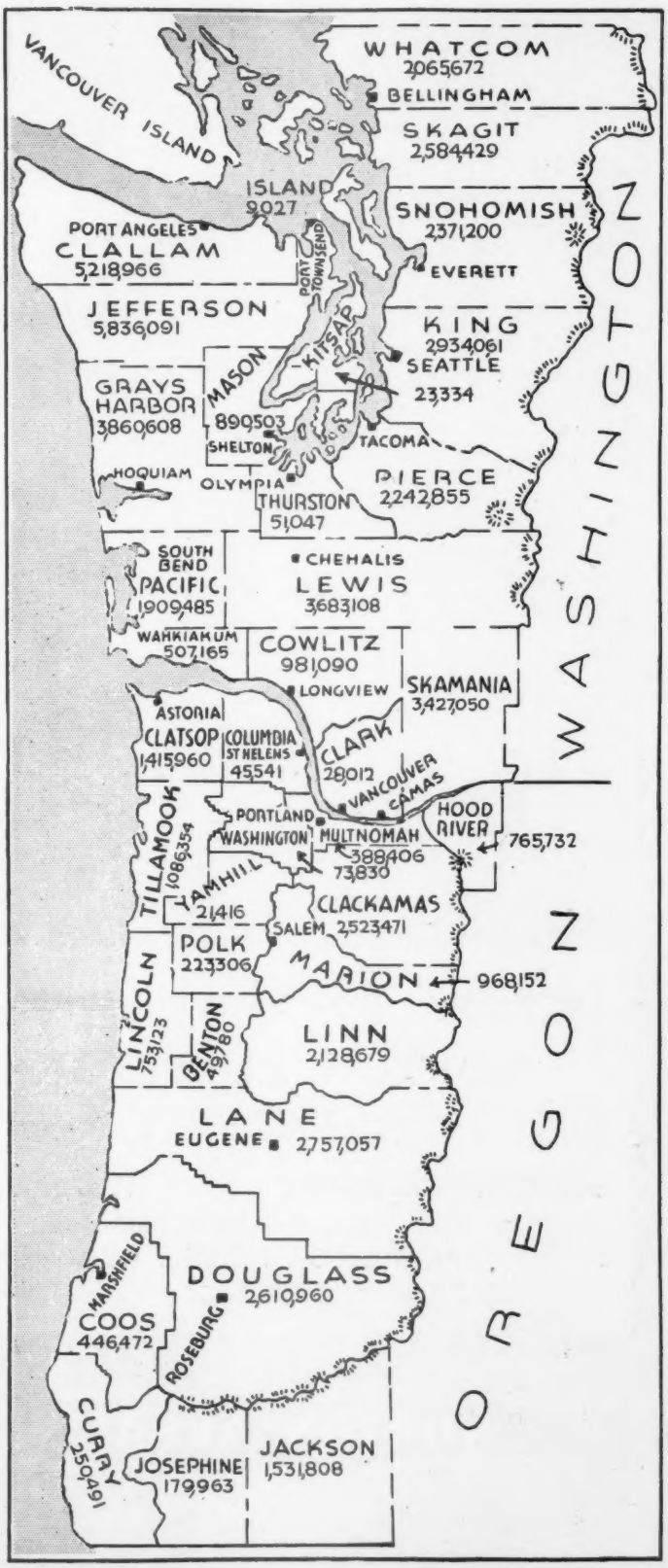
In order to determine more accurately just what is the actual volume of timber that will be available under a given set of conditions, the timber represented in Table I and II has been evaluated according to economic availability, and divided into three classes. Table III shows the percentages which fall into each class.

Class 1 represents timber that could be logged at a profit under the production and marketing conditions during the five years of 1925-1929. Class 2 includes timber that under those conditions could be logged at a loss of not more than $5 per thousand board feet. In other words, it includes timber that can be profitably logged when and if log prices rise to that extent, or logging costs can be reduced $5 or more per thousand board feet. Class 3 includes all remaining timber.

From this table, many interesting points may be learned. First glance clearly shows that a much greater volume of privately owned timber is now economically available than that under national forest ownership. Only in the South Oregon Coast unit is a greater percentage of the national forest timber in Class 1 than that of private forest. In total, however, the national forests of western Washington contain more Class 1 timber than do those of western Oregon.

The current annual depletion of timber of pulpwood species in the region not including logging waste, is slightly greater than the current annual growth, but is considerably less than the potential annual growth under strict forest management, even including loss from cutting, fire, insects, etc.

The figures show that, depending on the extent to which these species are used for lumber and on the integration of pulp mills with sawmills, a pulp and paper industry several times its present size could be maintained entirely from present timber resources.



The above map of Western Oregon and Western Washington shows by counties the total volume in thousands of cubic feet of pulpwoods, other than Douglas fir, available for cutting » » » Figures from Table II.

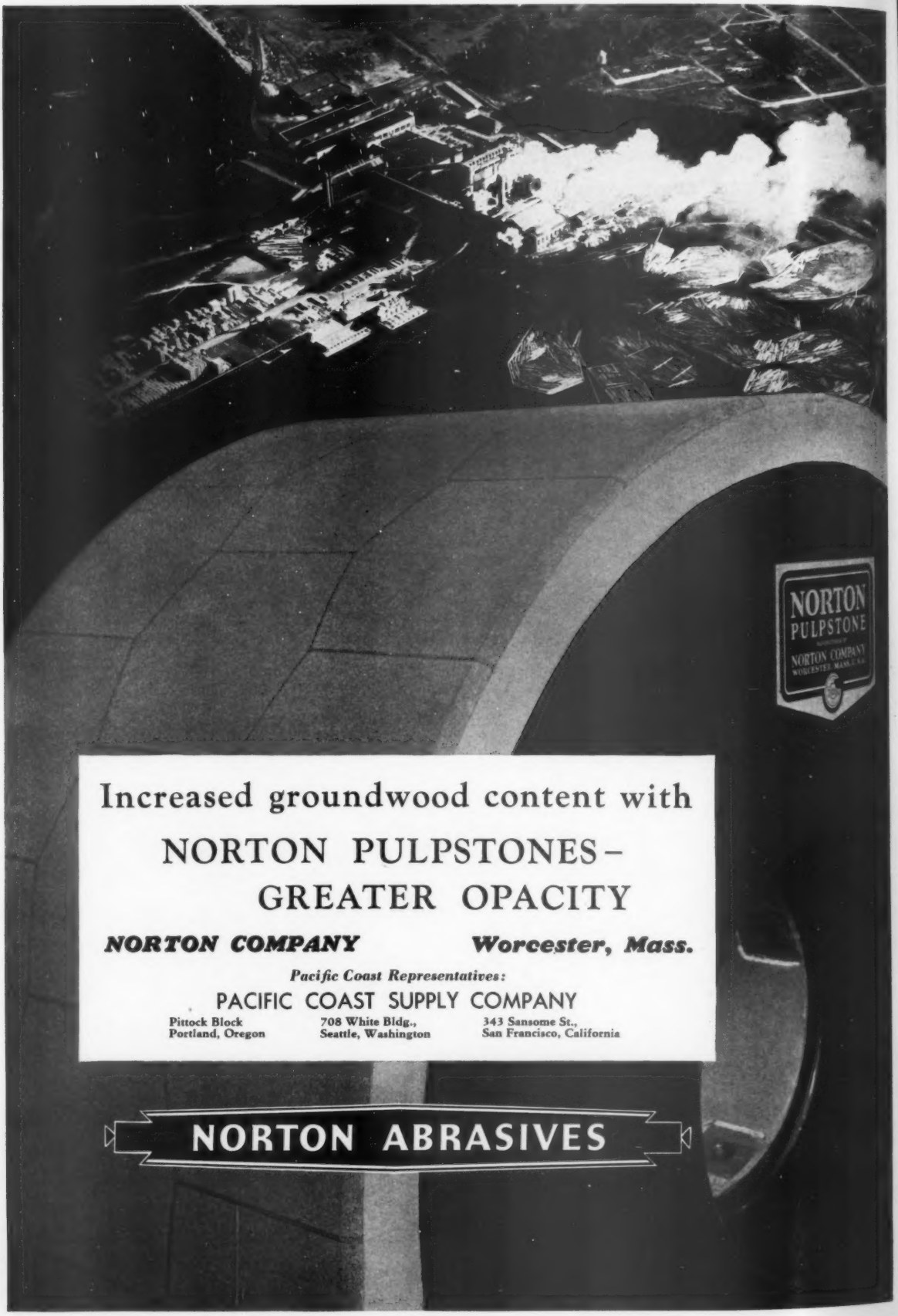

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TABLE III

ECONOMIC AVAILABILITY OF PULP SPECIES, OTHER THAN DOUGLAS FIR, OF SAW TIMBER SIZES IN WESTERN OREGON AND WESTERN WASHINGTON

	Private and public lands other than national forests					Natitonal Forests						
			Portion of volume included in class					Portiton of volume included in class				
Unit.	Volume	Volume	1†	2‡	3§	Volume	Volume	1†	2‡	3§	Total Volume All Ownerships	
Western Oregon	Cords	Cubic Feet*	Pct.	Pct.	Pct.	Cords	Cubic Feet*	Pct.	Pct.	Pct.	Cords	Cubic Feet
Columbia River	17,703,000	1,838,028,000	71	27	2	11,480,000	1,177,351,000	20	70	10	29,183,000	3,015,379,000
Willamette River	14,912,000	1,529,363,000	57	40	3	21,749,000	2,221,592,000	20	68	12	36,661,000	3,750,945,000
North Oregon Coast	14,795,000	1,508,239,000	61	37	2	2,474,000	256,981,000	46	53	1	17,269,000	1,765,220,000
Umpqua River	2,740,000	313,598,000	23	65	12	9,045,000	929,435,000	4	70	26	11,785,000	1,243,033,000
South Oregon Coast	8,279,000	891,761,000	74	25	1	992,000	121,306,000	86	5	9	9,271,000	1,013,067,000
Rogue River	4,010,000	429,614,000	39	45	16	6,302,000	642,377,000	22	61	17	10,312,000	1,071,991,000
Total Western Oregon	**62,439,000**	**6,510,593,000**	**62**	**35**	**3**	**52,042,000**	**5,349,042,000**	**20**	**66**	**14**	**114,481,000**	**11,859,635,000**
Western Washington												
North Puget Sound	24,662,000	2,557,264,000	46	44	10	25,351,000	2,572,855,000	25	56	19	50,013,000	5,130,119,000
Central Puget Sound	47,179,000	4,799,053,000	60	37	3	31,896,000	3,212,156,000	41	46	13	79,075,000	8,011,209,000
South Puget Sound	12,730,000	1,295,846,000	62	33	5	11,556,000	1,181,807,000	22	60	18	24,286,000	2,477,653,000
Grays Harbor	55,052,000	5,677,220,000	69	27	4	23,267,000	2,325,006,000	52	30	18	78,319,000	8,022,226,000
Columbia River	15,843,000	1,639,115,000	65	31	4	16,377,000	1,701,375,000	17	69	14	32,220,000	3,340,490,000
Total Western Washington	**155,466,000**	**15,968,498,000**	**62**	**33**	**5**	**108,477,000**	**10,993,199,000**	**34**	**50**	**16**	**263,913,000**	**26,961,697,000**
Total Western Oregon and Western Washington	**217,905,000**	**22,479,091,000**	**62**	**34**	**4**	**160,489,000**	**16,342,241,000**	**29**	**55**	**16**	**378,394,000**	**38,821,332,000**

*Cords multiplied by 86 cu. ft., as determined by J. E. Lodewick. See Pacific Pulp & Paper Industry, September, 1935.

†Class 1—Timber that could be logged at a profit under the production and marketing conditions during the five years 1925-1929.

‡Class 2—Timber that under those conditions could be logged at a loss of not more than $5 per thousand board feet.

§Class 3—The remaining timber.

The relation between the volume figures in cords and in cubic feet in Table III differs from that ordinarily found, due to the fact that the usual conversion factor of 86 (86 cu. ft. solid content to the standard cord) was not used, but instead, several different factors derived from standards of utilization.

These utilization factors were determined from the percentage of the total cubic volume utilized for pulpwood under general pulpwood cutting practice, for each class of trees. On the basis of the utilization standards specified for various classes of trees, the cubic volume of saw-timber trees represented in the total was converted to cords by dividing by 98, for understory trees by 132, and for second growth trees by 123.

Other Statistical Data

UNITED STATES

Total Domestic Woodpulp Production, by Grades, From 1899 to 1937

In Tons of 2,000 Lbs.

Year	Total	Groundwood	Sulphite	Soda	Sulphate
1937	6,600,000	1,582,400	2,170,000	449,215	2,184,500
1936	5,143,000	1,496,000	1,830,000	537,000	1,817,000
1935	4,944,226	1,355,189	1,594,748	489,238	1,415,096
1934	4,436,128	1,296,535	1,446,044	411,686	1,246,269
1933	[10]4,293,344	1,197,553	1,306,375	495,930	1,259,351
1932	3,760,267	1,203,044	1,145,639	290,703	1,028,846
1931	4,409,344§	1,449,240	1,416,671	460,682	1,034,291
1930	4,630,308‡	1,560,221	1,567,063	504,443	949,513
1929	4,862,885†	1,637,653	1,668,707	561,210	910,888
1928	[1]4,510,800	1,615,689	1,595,951	488,641	780,552
1927	[2]4,313,403	1,618,638	1,588,132	487,478	607,172
1926	[3]4,394,766	1,774,192	1,599,776	496,920	523,878
1925	[4]3,962,217	1,629,689	1,447,191	472,647	412,690
1924	[5]3,723,266	1,643,283	1,336,551	440,697	302,735
1923	[6]3,788,672	1,580,553	1,448,690	445,162	314,267
1922	[7]3,521,644	1,483,787	1,374,319	419,857	243,681
1921	[8]2,875,601	1,267,382	1,166,926	300,533	140,760
1920	3,821,704	1,583,914	1,585,834	463,305	188,651
1919	[9]3,517,952	1,518,829	1,419,829	411,693	120,378
1918	3,313,861	1,364,504	1,456,633	350,362	142,362
1917	3,509,939	1,535,953	1,451,757	437,430	84,799
1916	3,435,001	1,508,139	1,466,402	387,021	73,439
1914	[9]2,893,150	1,293,661	1,151,327	347,928	52,641
1911	2,686,134	*	*	*	*
1910	2,533,976	*	*	*	*
1909	2,495,523	1,179,266	1,017,631	298,626	.....
1908	2,118,947	*	*	*	*
1907	2,547,879	*	*	*	*
1904	1,921,768	968,976	756,976	196,770	.....
1899	1,179,525	586,374	416,037	177,114	.....

§Includes 48,460 tons of screenings as follows: mechanical, 10,115; chemical, 38,345.

‡Includes 49,068 tons of screenings, as follows: mechanical, 6,611; chemical, 42,457.

*Not reported separately.

†Includes 64,427 tons of screenings, as follows: mechanical, 11,459; chemical, 52,968.

[1]Includes data for screenings, as follows: Mechanical, 4,701 tons; sulphite, 37,093; sulphate, 6,327.

[2]Includes data for screenings, as follows: Mechanical, 8,229 tons; sulphite, 35,433; sulphate, 3,919.

[3]Includes data for screenings as follows: Mechanical, 9,944 tons; sulphite, 41,601; sulphate, 3,918.

[4]Includes data for screenings as follows: Mechanical, 17,670 tons; sulphite, 44,105; sulphate, 2,922.

[5]Includes data for some screenings.

[6]Includes data for screenings as follows: Mechanical, 12,759 tons; sulphite, 37,463; sulphate, 1,784.

[7]Includes data for screenings as follows: Mechanical, 12,220 tons; chemical, not shown by process, 35,003.

[8]Includes data for screenings as follows: Mechanical, 11,769 tons; chemical, not shown by process, 35,824.

1935 figures from United States Pulp Producers Association include 82,912 tons of damaged, off-quality and miscellaneous grades.

●

PULPWOOD IMPORTS

(Unit: 1 Cord—128 Cu. Ft.)

	Rough	Peeled	Rossed	Chipped	Total
1937	274,470	1,185,687	24,309	38,402	1,522,868
1936	200,701	977,460	31,597	.....	1,209,758
1935	99,659	937,428	425	.....	1,037,332
1934	180,019	789,158	4,801	.....	973,978
1933	119,852	591,812	11,544	.....	723,208
1932	114,366	531,158	2,664	.....	648,188
1931	186,613	817,926	17,128	.....	1,021,667
1930	331,158	1,234,678	16,365	.....	1,582,201

Source: Department of Commerce. Bureau of Foreign and Domestic Commerce.

VALUE AND QUANTITY OF WOOD-PULP PRODUCTION, BY STATES—1936

Source: Department of Commerce

This table represents statistics for all states for which separate figures can be published without disclosing exactly or approximately, the data reported by individual establishments. Certain of the "other states," however, are more important in the industry than some of the states shown separately.

	Wood Pulp Produced Tons (2,000 lbs.)	Value
United States	**5,695,219**	**$165,272,519**
States—		
Wisconsin	605,377	23,050,140
Washington	895,797	27,549,520
Maine	933,510	23,680,643
New York	452,941	13,429,024
Louisiana	474,332	10,095,690
Virginia	333,982	9,367,590
Pennsylvania	173,407	8,214,502
Michigan	198,169	6,616,342
Oregon	302,634	6,695,145
New Hampshire	included in [1]	Included in [1]
Minnesota	218,633	5,554,320
Massachusetts	Included in [1]	Included in [1]
Vermont	15,488	302,557
Other States[1]	1,090,949	30,717,046

[1] Alabama, Arkansas, Delaware, Florida, Maryland, Mississippi, New Jersey, North Carolina, Ohio, South Carolina, Tennessee and West Virginia.

●

WOOD-PULP PRODUCTION, BY STATES 1931-1932-1933-1936

(Revised)

Source: Department of Commerce.

	Wood pulp produced (tons of 2,000 lbs.) 1931	1932	1933	1936
United States	**4,409,344**	**3,760,627**	**4,293,344**	**5,695,219**
State				
Louisiana	260,765	289,021	382,983	474,332
Maine	889,416	764,834	778,670	933,510
Massachusetts	23,785	14,210	12,387	Incl. in [1]
Michigan	.....	.....	.....	198,169
Minnesota	148,369	134,509	154,522	218,633
New Hampshire	.....	.....	78,802	Incl. in [1]
New York	466,510	353,867	393,615	452,941
Oregon	237,532	187,133	189,332	302,634
Pennsylvania	160,023	130,149	123,758	173,407
Vermont	25,601	Incl. in [1]	18,000	15,488
Virginia	223,417	207,660	241,803	333,982
Washington	580,016	420,529	583,770	895,797
Wisconsin	586,271	476,228	532,610	605,377
Other States[1]	657,528	628,804	649,418	1,090,949

[1]Combined to avoid disclosing, exactly or approximately, the output of individual establishments.

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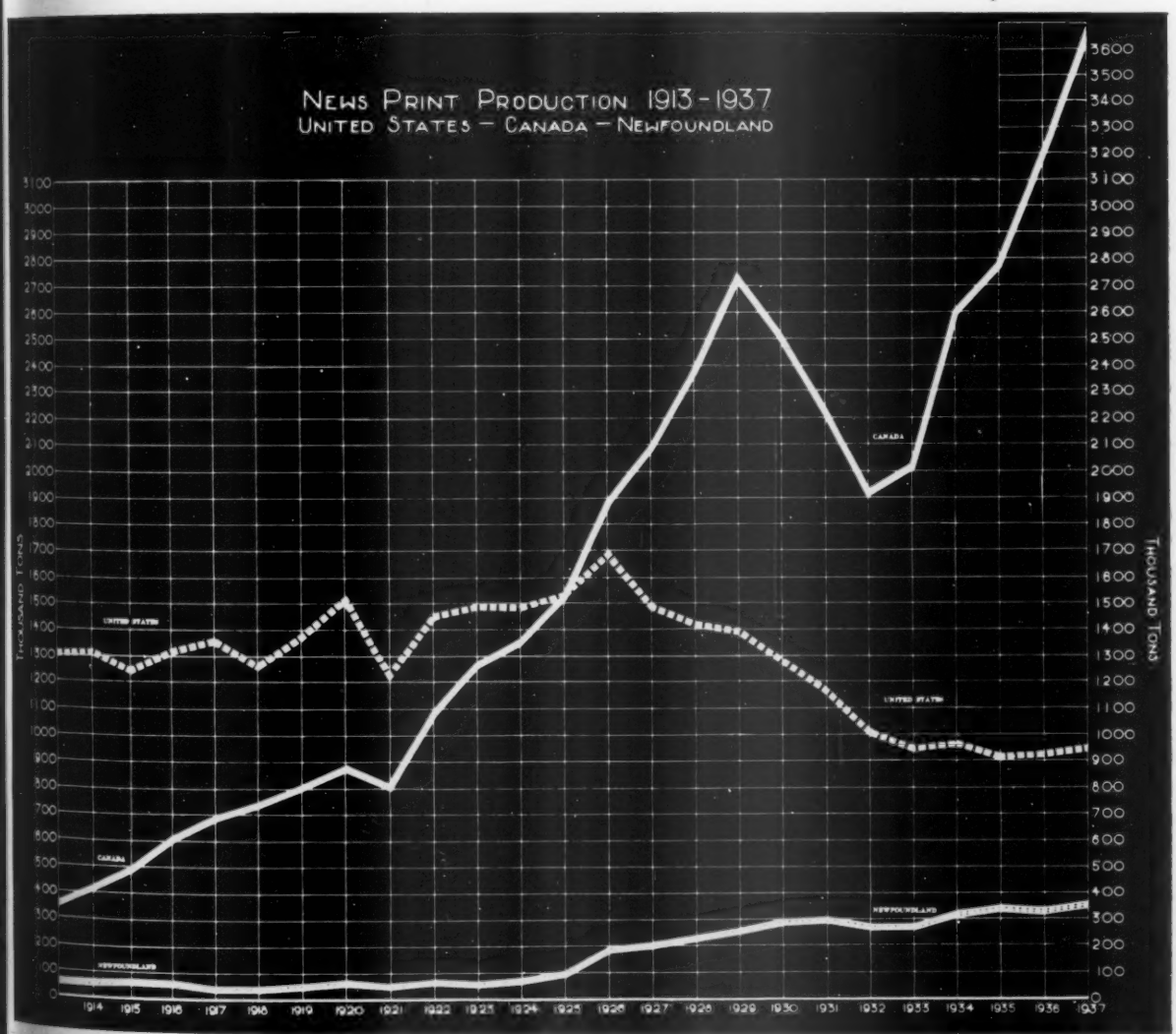
Newsprint

NORTH AMERICAN PRODUCTION

Source—News Print Service Bureau

	Canada	United States	Newfoundland	Mexico	Total
1937—Twelve Months	3,645,000	946,000	353,000	----------	4,944,000
1936— " "	3,192,000	921,000	328,000	----------	4,441,000
1935— " "	2,753,000	921,000	328,000	----------	4,441,000
1934— " "	2,599,000	957,000	316,000	20,000	3,892,000
1933— " "	2,017,004	946,374	270,834	16,367	3,250,579
1932— " "	1,914,316	1,008,588	271,804	12,683	3,207,391
1931— " "	2,221,454	1,157,436	294,983	15,195	3,689,068
1930— " "	2,504,147	1,282,372	287,259	14,286	4,088,064
1929— " "	2,728,827	1,392,276	255,501	18,680	4,395,284
1928— " "	2,381,102	1,417,572	230,745	16,981	4,046,400
1927— " "	2,086,949	1,485,495	202,852	14,137	3,789,433
1926— " "	1,881,737	1,684,218	186,471	13,412	3,765,838
1925— " "	1,522,217	1,530,318	96,588	12,681	3,161,804
1924— " "	1,352,994	1,481,425	64,648	11,500	2,910,567
1923— " "	1,266,232	1,485,000	63,906	12,000	2,827,138



Source: News Print Service Bureau

SOURCES OF NEWSPRINT USED IN THE UNITED STATES

(Tons in Round Numbers)

Source: News Print Service Bureau

	U. S. Production	U. S. Exports	Imports into the U. S. From Canada	Newfoundland	Europe	Available for Consumption
1913	1,305,000	43,000	219,000	.....	1,000	1,482,000
1914	1,313,000	61,000	310,000	.....	5,000	1,567,000
1915	1,239,000	55,000	367,000	.....	1,000	1,552,000
1916	1,315,000	76,000	468,000	.....	.....	1,707,000
1917	1,359,000	94,000	558,000	.....	1,000	1,824,000
1918	1,260,000	97,000	596,000	.....	.....	1,759,000
1919	1,375,000	111,000	628,000	.....	3,000	1,895,000
1920	1,512,000	49,000	679,000	1,000	50,000	2,193,000
1921	1,225,000	17,000	657,000	.....	135,000	2,000,000
1922	1,448,000	26,000	896,000	.....	133,000	2,451,000
1923	1,485,000	16,000	1,109,000	.....	200,000	2,778,000
1924	1,481,000	17,000	1,197,000	4,000	156,000	2,821,000
1925	1,530,000	23,000	1,295,000	20,000	133,000	2,955,000
1926	1,684,000	19,000	1,658,000	94,000	100,000	3,517,000
1927	1,486,000	12,000	1,776,000	89,000	122,000	3,461,000
1928	1,418,000	11,000	1,926,000	114,000	116,000	3,563,000
1929	1,392,000	19,000	2,195,000	132,000	96,000	3,796,000
1930	1,282,000	10,000	1,989,000	156,000	134,000	3,551,000
1931	1,157,000	10,000	1,754,000	160,000	151,000	3,212,000
1932	1,009,000	8,000	1,533,000	114,000	144,000	2,793,000
1933	946,000	11,000	1,545,000	95,000	153,000	2,728,000
1934	961,000	23,000	1,956,000	107,000	147,000	3,148,000
1935	912,000	23,000	2,062,000	124,000	197,000	3,272,000
1936	921,000	15,000	2,422,000	87,000	243,000	3,658,000
1937	946,000	17,000	2,899,000	124,000	294,000	4,246,000

UNITED STATES

Wood Pulp Imports by Grades and Countries of Origin—1936

SHORT TONS

Grade—	COUNTRY OF ORIGIN Canada	Finland	Germany	Norway	Sweden	Others	Total by Grades
Mechanical Wood Pulp—Total	170,344	29,699	.....	8,371	22,374	———	227,778
Unbleached	170,344	24,719	———	3,010	8,771	———	———
Bleached	———	4,980	———	5,361	13,603	———	———
Sulphite—Total	370,421	188,455	74,663	96,341	493,062	75,946	1,298,888
Unbleached	89,359	157,324	39,871	25,391	425,753	49,022	786,720
Bleached	281,062	31,131	34,792	70,950	67,309	26,924	512,168
Sulphite—Total	117,460	92,765	.....	23,544	499,373	4,955	738,097
Unbleached	62,216	87,325	.....	23,314	457,912	4,955	635,722
Bleached	55,244	5,440	.....	230	41,461	.....	102,375
All Others	12,737	.....	.....	.....	.....	.....	.....
Total (By Countries)	**670,962**	**310,919**	**74,663**	**125,246**	**1,014,809**	**81,230**	**2,277,829**
Value	**$27,099,612**	**$10,461,361**	**$2,881,857**	**$5,240,935**	**$34,199,656**	**$2,997,579**	**$82,881,000**

Source—Import Statistics, U. S. Department of Commerce.

UNITED STATES

Wood Pulp Imports by Grades and Countries of Origin—1935

SHORT TONS

Grade—	COUNTRY OF ORIGIN Canada	Finland	Germany	Norway	Sweden	Others	Total by Grades
Mechanical Wood Pulp—Total	136,112	24,490	.....	7,006	22,404	29	190,041
Unbleached	136,048	22,143	.....	3,317	10,666	29	172,203
Bleached	64	2,347	.....	3,689	11,738	.....	17,388
Sulphite—Total	293,177	175,716	80,255	68,946	446,577	57,798	1,122,449
Unbleached	67,404	146,166	50,024	16,539	377,320	35,573	693,026
Bleached	225,773	29,550	30,231	52,407	69,237	22,225	429,423
Sulphate—Total	94,748	66,286	.....	17,356	429,916	3,036	611,342
Unbleached	43,549	62,173	.....	17,328	400,654	2,980	525,684
Bleached	51,199	4,113	.....	28	29,262	56	84,658
All Others	9,587	.....	.....	.....	25	187	9,799
Total (By Countries)	**533,624**	**266,492**	**80,255**	**93,308**	**898,902**	**61,050**	**1,933,631**
Value	**$22,508,650**	**$8,890,747**	**$3,096,673**	**$3,837,380**	**$30,201,562**	**$2,145,975**	**$70,680,987**

Source—Import Statistics, U. S. Department of Commerce.

EXPORTS OF NEWSPRINT FROM UNITED STATES

(Tons)

Source—Newsprint Service Bureau

Country—	1934	1935	1936	1937
Europe	404	159	61	172
Canada	6	9	177	64
Central America	1,345	800	407	1,479
Mexico	46	3,607	6,748	52
Cuba	2,735	3,781	3,192	4,634
South America	1,400	1,755	1,207	4,403
China and Japan	14,273	10,610	1,044	3,869
Philippine Islands	2,905	1,459	1,492	1,720
Other Countries	306	302	268	665
Total	23,420	22,582	14,596	17,058

NEWSPRINT EXPORTS FROM CANADA*

TO:	1934 Tons	1935 Tons	1936 Tons	1937 Tons
United Kingdom	79,087	115,290	94,442	147,998
South America	114,972	112,967	107,695	108,294
South Africa	10,443	14,064	20,124	27,684
Australia	9,567	108,365	178,982	118,016
New Zealand	25,857	32,463	42,460	26,379
U. S. A.	1,958,945	2,051,937	2,398,674	2,899,019
Japan	57,615	66,554	75,472	34,006
China	34,427	41,171	19,588	10,561
All other	18,711	32,176	55,664	83,280
Total	2,399,624	2,574,987	2,993,091	3,455,237

*Compiled from Canadian Pulp & Paper Association, government reports, and News Print Service Bureau data.

CANADA
Wood Pulp Exports

(Tons of 2,000 lbs.)

Year—	Chemical Pulp Tons	Chemical Pulp Value	Mechanical Pulp Tons	Mechanical Pulp Value	Total, All Pulp Net Tons	Total, All Pulp Value
1937	703,915	$37,670,179	166,796	$4,145,552	870,711	$41,815,121
1936	620,977	28,405,644	133,512	2,841,051	754,489	31,246,695
1935	538,419	24,993,785	124,049	2,631,945	662,468	27,625,730
1934	486,990	22,716,942	118,645	2,727,902	605,635	25,444,844
1933	476,358	20,666,614	132,151	2,688,023	608,509	23,354,637
1932	336,063	16,367,976	116,229	2,562,080	452,292	18,930,065
1931	457,435	25,450,476	165,096	4,606,167	622,531	30,056,643
1930	551,413	33,092,807	208,759	5,967,172	760,172	39,059,979
1929	626,378	37,670,383	209,331	5,906,638	835,709	43,577,021
1928	660,136	40,068,703	203,670	5,546,120	863,806	45,614,323
1927	618,324	39,234,577	260,831	7,761,464	879,155	46,996,011
1926	621,004	40,571,304	382,077	11,505,818	1,003,081	52,077,122
1925	599,466	37,358,632	360,265	10,573,273	959,671	47,931,905
1924	528,279	32,326,943	253699	7,916,029	781,978	40,242,972
1923	.....	.....	.....	.....	875,358	37,027,496
1922	.....	.....	.....	.....	818,246	41,037,849
1921	.....	.....	.....	.....	527,222	33,133,675
1920	.....	.....	.....	.....	819,985	76,563,978
1919	.....	.....	.....	.....	709,134	37,184,764
1918	.....	.....	.....	.....	583,911	33,359,927

UNITED STATES

Newsprint Imports — 1934-1937

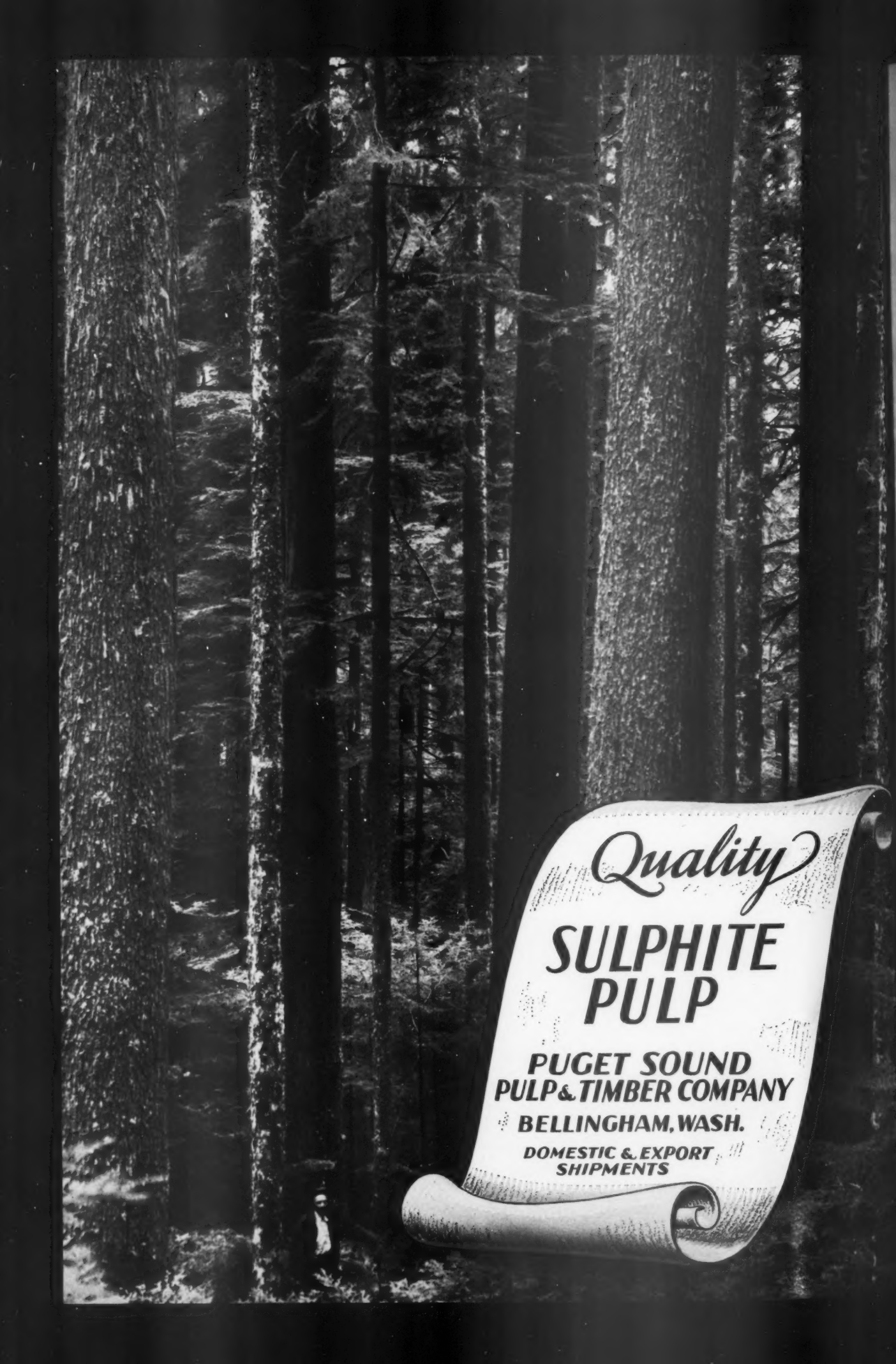
(Tons of 2,000 lbs.)

From:	1934	1935	1936	1937
Finland	56,813	73,928	122,972	154,629
Germany	5,740	7,156	9,772	13,022
Norway	16,417	22,571	22,110	24,654
Sweden	68,090	93,428	87,488	101,630
Canada	1,958,945	2,062,000	2,422,000	2,999,707
Newfoundland	107,000	124,000	87,000	123,344
Other	.....	2	10	.....
Total	2,213,005	2,383,085	2,751,352	3,416,986

CANADA
PULP PRODUCTION

(Tons of 2,000 lbs.)

	Mechanical Tons	Sulphite Tons	Sulphate Tons	Total Tons
1920	1,090,114	654,273	188,487	1,922,774
1921	931,560	476,929	131,337	1,539,826
1922	1,241,185	678,878	217,862	2,137,925
1923	1,449,106	749,668	224,812	2,413,586
1924	1,427,782	768,035	218,207	2,414,024
1925	1,621,917	842,785	242,207	2,706,909
1926	1,901,268	995,203	256,074	3,152,545
1927	1,922,124	1,016,060	262,512	3,200,696
1928	2,127,699	1,117,227	256,969	3,501,895
1929	2,420,774	1,236,232	250,104	3,907,110
1930	2,283,130	1,076,804	188,253	3,548,187
1931	2,016,480	941,586	145,156	3,103,222
1932	1,696,021	941,579	144,367	2,781,967
1933	1,859,049	937,313	182,988	2,979,350
1934	2,340,441	1,020,493	205,980	3,566,914
1935	2,458,000	1,025,000	206,000	3,689,000
1936	2,900,000	1,141,000	265,000	4,306,000
1937	3,320,000	1,290,000	303,000	4,913,000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Czechoslovakian Industry in 1937

• Most of the Czechoslovak pulp and and paper mills worked at capacity during the first 3 quarters of 1937, and some of them were obliged to refuse rush orders because they were unable to make deliveries at the time specified. This was particularly true during the first 6 months of the year, when customers had hastened to replenish their stocks before the announced increases in pulp and paper prices became effective. During the last few months of the year a decline in the volume of domestic and foreign orders caused a slackening in operating activities. While this recession was partly of a seasonal nature, it also reflected the prevailing economic uncertainty and depressed state of the international market.

No serious labor disturbances were reported in the industry during 1937. Strikes were called, or threatened in a few mills in support of workers' demands for wage increases or the restoration of former wage cuts, but generally these differences were amicably settled after discussions. Several of the mills reported a shortage of water in the late summer which temporarily restricted operations. Few complaints were made with regard to the supplies of raw materials, apart from its high cost, after the Ministry of Commerce placed exports of pulpwood under permit control.

Productions of paper in Czechoslovakia for the calendar year 1937 is estimated at 274,000 metric tons, based on the stated production by cartel plants, which produce about 87 per cent of the entire output. The 1937 figure represents an increase of 34,000 tons, or 14 per cent over 1936. Newsprint production last year amounted to 48,556 tons, an increase of 7,039 tons over 1936.

Production of sulphite pulp in 1937 amounted to approximately 160,000 tons, not including the 96,000 to 100,000 tons produced by the mills for their own use. Compared with the production of 246,000 tons reported for 1936, the estimated output for 1937 indicates a gain of 6 per cent.

Production of mechanical pulp for sale in Czechoslovakia is small, amounting to only 6,240 tons last year as against 6,110 tons in 1936.

Exports of pulp for paper making from Czechoslovakia reached the total of 135,796 metric tons (metric ton—2,204.6 pounds), as against 109,748 tons in 1936. Exports of sulphite pulp comprised 82,464 tons of bleached and 53,332 tons of unbleached pulp. In addition to the sulphite pulp, 10 tons of rag pulp and 90 tons of mechanically-ground pulp were exported in 1937. The United States was Czechoslovakia's most important market for sulphite pulp during the first 9 months of the year. In the fourth quarter, however, the leading customer was Germany. For the entire year exports of pulp to the United States were estimated at approximately 39,300 metric tons, and to Germany 23,500 tons. American Consulate General, Prague.)

Australia's Supply of Newsprint

• No newsprint is produced in Australia at present. A group of newspapers is interested in the possibility of producing newsprint in the State of Tasmania, using hardwood as raw material, but plans only have been completed and it will be at least two or three years before production commences. The entire Australian requirement for newsprint is now met by imports chiefly from Canada and the United Kingdom. Imports of newsprint into Australia during the fiscal year ended June 30, 1937, totaled 208,544 long tons, of which 197,485 represented newsprint in rolls.

Although official figures are not available for the calendar year 1937, members of the trade estimate that imports of newsprint during this period were approximately the same as those in the fiscal year mentioned. They base this estimate on the fact that imports were particularly heavy during the last 6 months of the calendar year 1936 and the last 6 months of the calendar year 1937.

The above figures should not be taken as representing the actual consumption of newsprint in Australia, as imports have been particularly heavy during the past 2 years, resulting in rather heavy stocks being accumulated. Experts estimate that the present annual consumption of newsprint in Australia is approximately 125,000 tons, and that imports in excess of that quantity went into stock. That imports have considerably exceeded actual requirements during the past two years is explained by the fact that many of the large consumers bought heavily during 1936 at what they regarded as favorable prices. Some of the newsprint purchased in 1936 was for delivery during 1937, and as the buyers wished to avoid the storage charges in Australia, they did not have the paper shipped until towards the end of 1937. It appears that, in view of the heavy stocks now held in Australia, much less newsprint will be imported during the calendar year 1938. (Office of the American Trade Commissioner, Sydney).

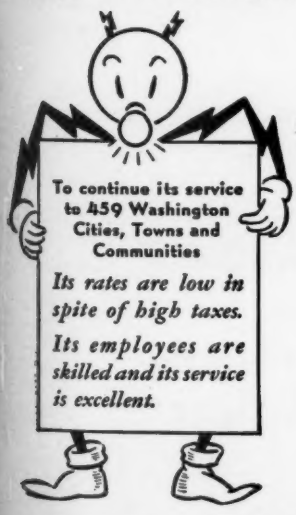
Export of Transparent Sheeting from Japan

• Exports of transparent wrapping from Japan during 1937 reached a total of approximately 5,000,000 pounds, valued at 2,970,000 yen (yen—(0.2903 United States currency), the volume showing a decline of 6 per cent and the value a gain of 10 per cent as compared with 1936. A much higher level of prices during the last half of 1937 was reported to be directly responsible for the halt in expansion of Japanese exports in transparent sheetings. The following table summarizes these exports during the years 1935 to 1937 as reported in the official monthly trade statistics:

Year	Volume-Pounds
1935	4,183,928
1936	5,231,431
1937	4,923,093

(Office of the American Commercial Attache, Tokyo.)

WASHINGTON NEEDS PUGET POWER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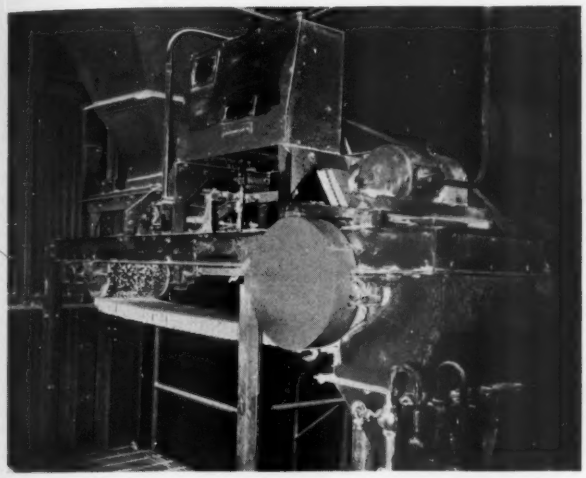

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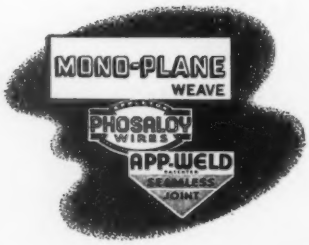

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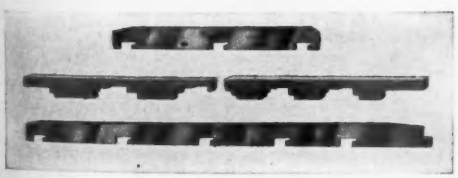
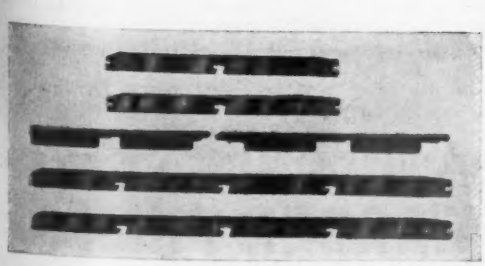

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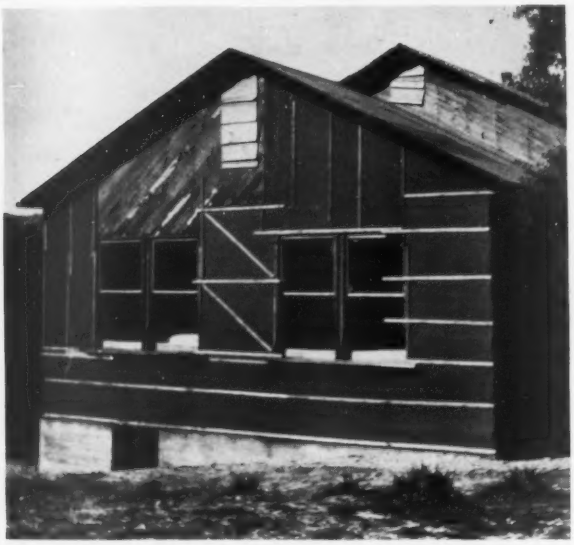

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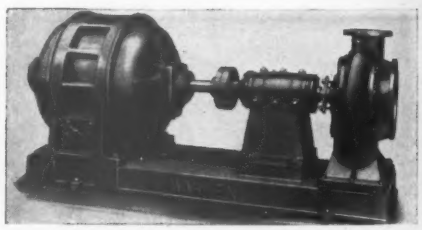

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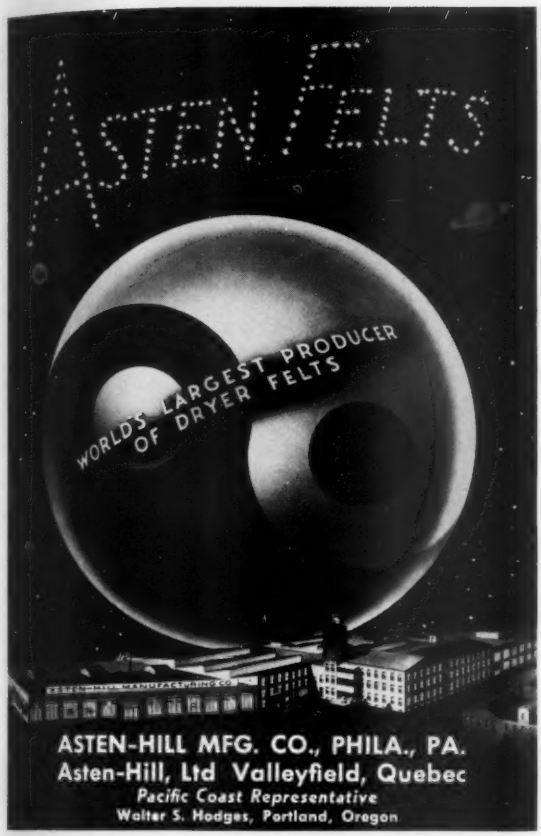
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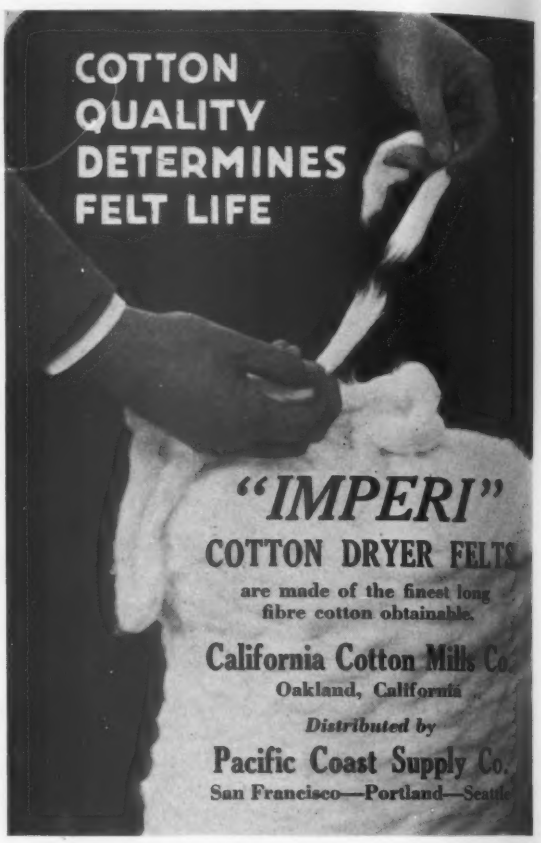

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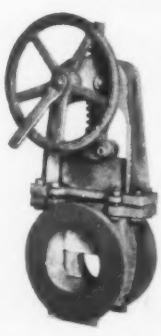

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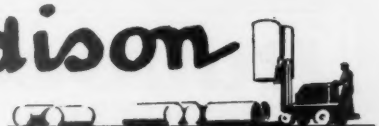

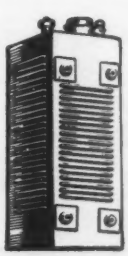

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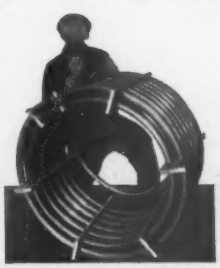

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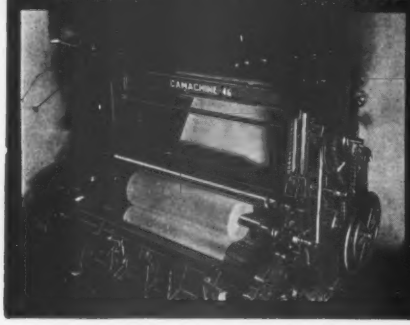

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INDEX OF ADVERTISERS

Albany Felt Co. 7
American Pulp & Paper Mill Superintendents Association 121
Appleton Wire Works, Inc. 122
Appleton Woolen Mills 127
Asten-Hill Mfg. Co. 125

Bagley & Sewall Co. 8
Beloit Iron Works 1
Black-Clawson Co. 5
Bolton & Sons, Inc., John W. 123
Brubaker Aerial Surveys 130
Bulkley Dunton Pulp Co. 16

California Cotton Mills 126
Cameron Machine Co. 130
Cavin, Marshall & Barr 130
Chase & Co., R. E. 84
Chemipulp Process, Inc. 131
Chromium Corporation of America 130

DeGuere, L. A. 130
Draper Bros. Co. 128
Du Pont de Nemours & Co., E. I. 100

Eastwood Nealley Corp. ..... Outside Back Cover
Edison Storage Battery Co. 127
Electric Steel Foundry Co. 90
Elwell-Parker Electric Co. 120
Everett Pulp & Paper Co. 114

Ferguson & Co., Hardy S. 130
Freeport Sulphur Co. ..... Inside Back Cover

General Dyestuff Corp. 4
Great Western Electro-Chemical Co. 113

Hammermill Paper Co. 122
Hardy, George F. 131
Hawley Pulp & Paper Co. 2
Hesse-Ersted Iron Works 130
Hodges, Walter S. 123
Hooker Electrochemical Co. 13
Hotel Multnomah 119
Huntington Rubber Mills, Inc. 128
Huyck & Sons Co., F. C. 72

Improved Paper Machinery Co. 66, 67
Inland Empire Paper Co. 124
International Filter Co. 129

Lindsay Wire Weaving Co. 126
Link-Belt Co. 3
Lockport Felt Co. 96

Merrick Scale Mfg. Co. 121

Nash Engineering Co. 9
National Tank & Pipe Co. 94
Nichols Engineering & Research Corp. 104
Northwest Filter Co. 128
Northwest Lead Co. 129
Norton Co., The 110

Orr Felt & Blanket Co. 125

Pacific Coast Supply Co. 70
Paper Makers Chemical Co. 10
Pacific National Bank 125
Pennsylvania Salt Mfg. Co. of Washington ..... Inside Front Cover
Perkins-Goodwin Co. 12
Pioneer Rubber Mills 128
Plant Rubber & Asbestos Works 120
Puget Sound Power & Light Co. 119
Puget Sound Pulp & Timber Co. 118
Pulp Bleaching Company 119

Rayonier Incorporated 107
Record Foundry & Machine Co. 126
Rice, Barton & Fales, Inc. 81
Roche Harbor Lime & Cement Co. 127
Ross Engineering Corp., J. O. 98

St. Regis Kraft Company 108
Schoenwerk, O. C. 131
Selden, Stanley 131
Shartle Bros. Machine Co. 5
Shell Oil Co. 79
Shuler & Benninghofen 124
Soundview Pulp Co. 76
Stauffer Chemical Co. 127
Stebbins Engineering Corp. 74
Stetson-Ross Machine Co. 130
Sumner Iron Works 129

Taylor Instrument Companies 86, 87

Union Screen Plate Co. 127

Vaughan Motor Co. 82

Wade & Co., R. M. 129
Warren Steam Pump Co. 124
Waterbury & Sons Co., H. 126
Waterbury Felt Co., The 129
Western Gear Works 88
Westinghouse Electric & Mfg. Co. 6
Weyerhaeuser Timber Co. 11
Wisconsin Wire Works 129

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TABLE OF CONTENTS

Review Articles

Page

Review of the Pacific Coast Industry in 1937; Production, Prices, Improvements, Expanison, Activities ... 17
Pulp, Paper and Board Production in the U. S. in 1937. 33
Pulp Market in 1937—Foreign and Domestic Shares ... 38
Newsprint Production in 193/ ... 40
U. S. Pulp and Paper Imports in 1937 ... 46
Wage Rates and 1937 Employment ... 58
Trade Agreements Threaten Further Injury To American Paper Industry ... 85
Japanese Pulp Imports, Pulp Production and Plans for Development ... 92
U. S. Pulp and Paper Exports in 1937 ... 101
British Columbia Pulp and Paper Exports in 1937 ... 102
Foreign Pulp Producers Export More Pulp in 1937 ... 62
World Rayon Production Rises in 1937 ... 63
Pulpwood Resources of the Pacific Northwest ... 105

Statistical Tables

Pacific Coast Industry:

U. S. Pacific Coast Wood Pulp Production, 1923-1937 17
British Columbia Wood Pulp Production, 1923-1937 ... 17
Total Pacific Coast Wood Pulp Production, 1923-1937 18
Total Pacific Coast Pulpwood Consumption, 1924-1937 18
Paper Production of Pacific Coast States and British Columbia, 1931-1937 ... 20
Pulp, Paper and Board Tonnage Added to Pacific Coast Industry in 1937-1938 ... 25
British Columbia Pulp and Paper Production, 1919-1937 ... 31
Pulp and Paper Capacities of Pacific Coast Mills ... 44, 45
Pacific Coast Wood Pulp Imports, 1937 ... 53
Pacific Coast Wood Pulp Imports, 1936 ... 55
Pacific Coast Imports of Pulpwood, 1937 ... 53
Pacific Coast Pulp and Paper Imports, 1936-1937 ... 57
Payrolls, State of Washington, 1927-1937 ... 59
Payrolls, State of Oregon, 1927-1937 ... 61
Payrolls, Washington, Oregon, California, 1935 ... 60
Exports of Wood Pulp from Pacific Coast Ports, 1930-1937 ... 101
Exports of Wood Pulp from Pacific Coast by Countries of Distination ... 103
Exports of Paper and Board from Pacific Coast Ports, 1930-1937 ... 101
Exports of Pulp and Paper from British Columbia, 1929-1937 ... 103
Pulpwood Resources of Western Oregon and Washington ... 105
Volume of Pulpwoods, Other Than Douglas Fir in Western Washington and Oregon Available for Cutting, by Counties ... 106
Pulpwood Resources of the Inland Empire ... 106
Economic Availability of Pulp Species, Other Than Douglas Fir in Western Oregon and Washington, Saw Timber Sizes, by Areas ... 111

United States Industry:

Wood Pulp Prices in U. S., 1928-1937, by Months in 1937 ... 23
U. S. Wood Pulp Production by Regions, 1937 ... 27
Regional Percentages of United States Wood Pulp Production, 1935-1936-1937 ... 27
U. S. Paper Production, 1933-1937 ... 33
U. S. Paper and Wood Pulp Production, Consumption and Pulpwood Consumption, 1899-1937 ... 34
Production of Paper Board and Consumption and Stocks of Waste Paper, 1930-1937 ... 34
Total U. S. Production of Wood Pulp, 1925-1937 ... 35
U. S. Paper Board Operation, Production Orders, 1930-1937 ... 37
Summary for 1937 of U. S. Wood Pulp Production, Shipments and Stocks ... 37
Estimated U. S. Consumption of Wood Pulp, 1925-1937 37
Proportion of U. S. Market for Wood Pulp Supplied by Domestic and Foreign Mills, 1935, 1936, 1937 ... 39
Newsprint in the U. S., Production, Imports, Exports Consumption, 1913-1937 ... 43
Imports of European Newsprint into the U. S., 1920-1937 ... 43
U. S. Wood Pulp Imports by Grade and Value, 1937 ... 48
U. S. Wood Pulp Imports, by Grade, Quantity and Value, 1922-1937 ... 49
U. S. Imports of Bleached Sulphite Pulp by Countries 1920-1937 ... 50
U. S. Imports of Unbleached Sulphite Pulp by Countries, 1920-1937 ... 50

Page

U. S. Imports of Bleached Sulphate Pulp by Countries, 1930-1937 ... 50
U. S. Imports of Bleached and Unbleached Sulphate Pulp by Countries, 1920-1937 ... 33
Paper and Pulp Imports of the U. S., and Paper Base Stocks, 1936-1937 ... 33
U. S. Wood Pulp Exports, 1930-1937 ... 101
U. S. Exports of Pulp, Paper and Paper Base Stocks, 1936-1937 ... 102
Total U. S. Wood Pulp Production by Grades from 1899-1937 ... 112
U. S. Pulpwood Imports, 1930-1937 ... 112
U. S. Wood Pulp Production by States, 1931, 1932, 1934, 1936 ... 112
U. S. Wood Pulp Production by States, Value and Quantity, 1936 ... 112
Exports of Newsprint from U. S., 1934-1937 ... 117
Imports of Newsprint into U. S., 1934-1937 ... 117
U. S. Wood Pulp Imports by Grades, Countries of Origin, 1936 ... 116
U. S. Wood Pulp Imports by Grades, Countries of Origin, 1935 ... 116
Sources of Newsprint in the U. S., 1913-1937 ... 116

Other Statistical Tables:

World Production of Newsprint, 1928-1937 ... 43
Newsprint in Canada, 1913-1937 ... 43
U. S. Rayon Yarn Producers ... 64
Newsprint Exports from Canada, 1934-1937 ... 117
Canadian Wood Pulp Production, 1920-1937 ... 117
Canadian Wood Pulp Exports, 1918-1937 ... 117
Newsprint Production in North America, 1923-1937 ... 115

Data on Japan:

Japanese Imports of Paper and Rayon Pulp, 1936-1937 92
Japanese Wood Pulp Imports by Countries of Origin, 1935, 1936, 1937 ... 93
Summary of Japanese Imports of Wood Pulp by Countries of Origin, 1928-1937 ... 93
Wood Pulp Exports to Japan from Pacific Coast Ports, by Grades, 1937 ... 93
Imports of Paper and Rayon Pulp into Japan, by Sountries of Origin, 1937 ... 93
Japanese Wood Pulp Production, 1935, 1936, 1937 ... 97
Japanese Import Quotas for 1938 ... 98
Japanese Pulp Prices on Domestic Unbleached Sulphite, 1934, 1935, 1936, 1937 ... 99
Japanese Pulp Prices on Imported Rayon and Paper Pulp, 1935, 1936, 1937 ... 99

Graphs and Maps

Pacific Coast Industry:

Wood Pulp Production, 1921-1937 ... 19
Wood Pulp Production in Leading States, 1926-1937 ... 20
Comparative Growth of Pacific Coast Industry, 1923-1937 ... 29
Map of Pacific Coast Mill Locations ... 32
Map of Pacific Coast Pulpwood Resources ... 109

United States Industry:

Wood Pulp Production in Leading States, 1926-1937 ... 20
Wood Pulp Price Trends, 1926-1937 ... 22
Total Wood Pulp Production, Consumption, Imports and Exports and Total Paper Production of U. S. ... 28
Pulpwood Prices, 1929-1937 ... 30
Wood Pulp Production, Consumption and Imports, 1904-1927 ... 35
Proportion of U. S. Newsprint Consumption Produced in U. S., Canada and Foreign Countries, 1915-1937 40
Newsprint Production, Imports and Consumption, 1913-1937 ... 41
Newsprint Production, U. S., Canada, Newfoundland, 1913-1937 ... 115
Percentages of Pulp Imports from Five Countries, 1935, 1936, 1937 ... 46
Pulp Imports into U. S., 1904-1937 ... 47
U. S. Imports of Bleached Sulphite Pulp, 1920-1937 ... 51
U. S. Imports of Unbleached Sulphite, 1920-1937 ... 52
U. S. Imports of Bleached Sulphate, 1921-1937 ... 54
U. S. Imports of Unbleached Sulphate, 1920-1937 ... 56
Average Hourly Wages Earned by Pulp and Paper Mill Employees in U. S. and Foreign Countries ... 58

Products List:

Products of the Pacific Coast Pulp, Paper, Board and Converting Industries ... 68

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